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Therapeutic Gazette.

Old Series, Vol. V. | Detroit, April 15, 1881. | New Series, Vol. II, No. 4.

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Original Department.

[Written for The Therapeutic Gazette.]

Ustilago Maydis, and Related Species.

By Volney M. Spalding, Assistant Professor in Charge of Botany, University of Michigan.

THE important position assumed by Ustilago Maydis among remedies of recent introduction renders desirable an account of its habits, structure, and other characteristics, together with a brief notice of such immediately related species as are of common occurrence. The descriptions given are chiefly drawn from observations recently made in the botanical laboratory of the University of Michigan, and although containing little that is new to specialists, may be of service to medical practitioners and others not having access to the foreign periodicals in which most of the literature of the subject is found.

Historical.—The parasitic growth upon Indian corn, commonly known in the United States as "smut," has doubtless attended the cultivation of maize from a very remote period, though it is difficult to ascertain precisely the date of its earliest notice. Of related species, however, historical material is abundant. As early as 1709, a dissertation by J. A. Planer on the smut of wheat, characterizes it as "vitium, morbus et pestis," which "occasions a conversion of wheat into black dust." In 1755 Tillet published at Bordeaux "a dissertation on the cause of the decay and blackening of grains of wheat in the head." This was followed in 1783 by a "treatise on the diseases of the grains" by the Abbe Tessier. These and other early writers, according to Tulasne,* regarded the disease as a degradation of the grain, which they believed was transformed, by some mysterious process, into a black and dusty mass.

Among the first professional botanists who studied the subject were Jussieu and Linnæus. These acute investigators, in opposition to the views that had hitherto prevailed, recognized in

*Mémoire sur les Urédinées et le Ustilaginées, 1846.

the morbid growth a living organism of a fungoid nature. There was, however, but little exact knowledge of its structure and life-history until Léveillé,† in 1837, presented a memoire to the Société Philomatique, of Paris, in which, in addition to numerous observations on other species, he gave a brief but clear account of "Uredo du mais" or Ustilago Maydis. One cannot fail to admire the exactness which characterized this painstaking observer, nearly half a century ago, and while it is easy to verify the facts which he has recorded, it is worth noting that the difficulty of observing the method of spore-formation which he speaks of is still hardly removed, even with the greatly superior appliances which are now at the disposal of any botanical student.

After Léveillé little more was contributed towards a complete knowledge of these fungi until, in 1846, the Tulasne brothers, in their classical memoire on the Uredineæ and Ustilagineæ, presented an imposing and beautifully illustrated monograph embodying all the information then attainable and giving a complete account of the literature of the subject. From this paper it appears that in the year 1846 Ustilago Maydis occurred in the valley of the Rhone in such abundance as to partially destroy the crop of corn, although it was a dry season, a fact of some significance, inasmuch as warmth and moisture are recognized as the most favorable conditions for the development of fungi. Tulasne embraced this opportunity for studying more critically the smut fungus and presented a more explicit account of it than had yet appeared. The gelatinous consistence of the spore-producing hyphæ, the origin of the spores as minute, rounded grains in the midst of this grumous mass, the formation of their double wall at the expense of the surrounding mucilage, and their final ripening and separation, were all observed and described with characteristic accuracy. He was able also to observe and describe satisfactorily the early stages of the process of germination, particularly in Ustilago carbo and Ustilago antherarum, but the complete details of the process were not discovered until some years later, and even then only for a limited number of species. Tulasne's second memoire on the Uredineæ and Ustilagineæ appeared in 1854 and proved a most valuable monograph on those orders.

Since the time of Tulasne various observers, among whom may specially be mentioned Fischer de Waldheim, Wollf, Winter, Farlow and Prillieux, have contributed largely to a more exact knowledge of this extensive an interesting group. The first-mentioned writer has given a valuable systematic arrangement of species and hosts, while to the others we are chiefly indebted for investigations of spore-formation, germination and other phyisological questions. Their results, however, are too voluminous for further reference. None of the authors cited discuss the medicinal value of any of the species. The use of Ustilago Maydis as a substitute for ergot of rye is quite recent, it having been introduced into medical practice in this country about 1866.

General Description—Corn smut is of common occurrence in the United States and its distinctive characters can hardly have escaped the observation of any one who has ever passed through a field of corn affected by it. In the Northern States it appears in the middle or latter part of summer, when the stalks of maize are making a vigorous growth and the young ears are beginning to form. It occasions irregular swellings, chiefly upon the young ears but also on the staminate flowers ("tassels") and stalks. The leaves, which contain far less succulent tissue than the other parts of the plant, are mostly exempt from its attacks. These swellings are of various sizes, some no larger than a pea, while others are "of the size of a child's head." The parts affected change in color and assume at first a glistening, silvery hue, which becomes darker as the transformation proceeds. Finally, at maturity, the whole mass breaks up, like a great puff-ball, discharging a cloud of dark-colored dust, which when collected has the appearance of a brownish-black, impalpable powder and gives off a peculiar, narcotic odor.

In order to study the development of the fungus a number of specimens were gathered from a cornfield near Ann Arbor in the fall of 1880. Although rather late in the season, material was obtained in every stage of growth, from minute swellings scarcely larger than the head of a pin to the large dusty balls already described. The fresh specimens were placed in alcohol which hardened them so that good sections were afterwards easily obtained. Upon making a section of the swellings in their earliest stages no unusual appearance was detected by the naked eye, but sections through larger swellings, in which the fungus was further developed, showed the mottled and striped appearance represented in figure 1.

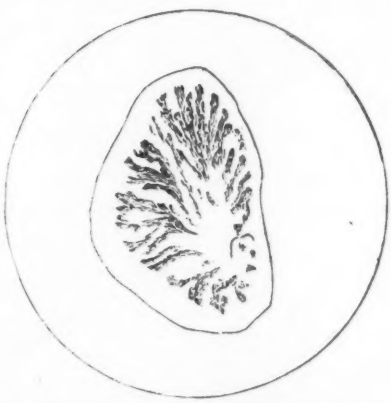

Fig. 1. Grain of Corn swollen and distorted by the action of Ustilago Maydis. Section magnified 3 diameters.

Microscopical Examination.—If now a very thin section is examined under a microscope of moderate power, (in this case sections of the kernel were examined) it will be seen that these dark, irregular spots and stripes are due to the presence of a fungus which has penetrated the tissue of the grain. The cells of the kernel are, in consequence of this intrusion, more or less swollen and distorted, though granular protoplasm and a distinct nucleus may often be found in them. The filaments (or hyphæ) of the fungus are fine, irregular threads

†Recherches sur le dévelopment des Urédenées.

which branch and anastomose with each other, as shown in figure 2, forming an almost inextricable

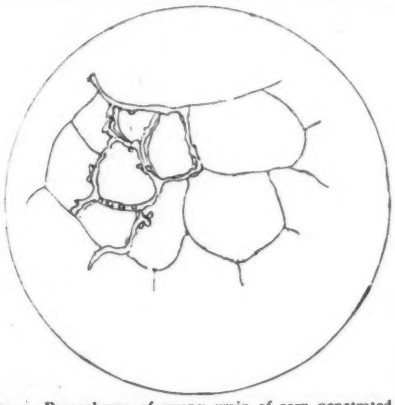

Fig. 2. Parenchyma of young grain of corn penetrated by mycelium of Ustilago Maydis. Magnified about 200 diameters. Partially diagramatic.

net-work, which is decidedly troublesome to extricate and whose relations to the neighboring cells can be made out only with difficulty. It may be stated, however, that as a rule the hyphæ lie between the cells instead of penetrating them, following the outlines of the cells among which they occur, and only rarely are seen lying across (running through?) them. Numerous irregular protuberances are formed on the hyphæ, which perhaps aid in drawing nutriment from the cells of the grain.

Passing now from the lighter to the darker portions of the section, we find that certain filaments present the appearance represented in figure 3, a.

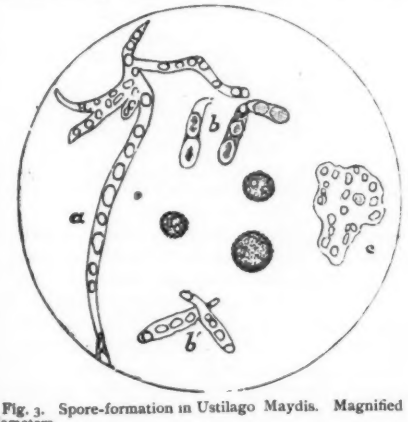

Fig. 3. Spore-formation in Ustilago Maydis. Magnified 750 diameters.

Their contents have gathered in rounded, or slightly angular, transparent masses, which are sharply defined and lie in more or less extended rows within the hyphæ, reminding one of the formation of chlamydospores in the Mucorini, or brown moulds. In places these hyphæ are collected together in great numbers forming a thick and intricate mass. When any of these can be isolated by mechanical means they present the appearance shown at b, figure 3, but for the most part they are not only closely interwoven but are fused together by the conversion of the walls into a mucilaginous material in which the young spores lie imbedded, as represented at c, figure 4. In this gelatinous mass

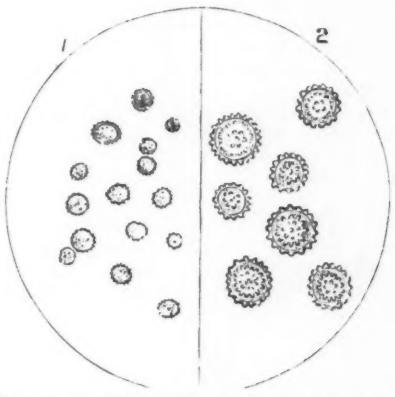

Fig. 4. Spores of Ustilago Maydis (1) magnified 326 (2) 750 diameters.

spores may be found in every stage of development. In their early stages they appear as minute, rounded masses of condensed protoplasm, translucent and nearly colorless, growing larger and assuming a brownish hue as development proceeds, and at the same time forming a cell wall, which becomes firmer and darker colored as the spores approach maturity. The wall is in two layers, an outer one, firm and dark-colored called the epispore and an inner one, thin, transparent and extensible called the endo-spore. The epispore in Ustilago Maydis is covered with numerous fine protuberances which give it a spiny appearance and constitute one of the characters by which this species may be distinguished from others. The perfect spores are nearly spherical, 8 to 11 micromillimetres in diameter, and of a dark brown color. As they ripen, the gelatinous mass of hyphæ in which they lie embedded becomes absorbed and its remnants dried up, until finally nothing remains but a mass of dry and dusty spores held together by shreds of parenchyma belonging to the host and enclosing broken and scattered fragments of cells, together with portions of the filaments of the fungus.

Germination.—The spores, produced in great numbers in the manner described, are scattered upon the ground or adhere to the ripe grains of corn and are ready under favorable circumstances to germinate and attack subsequent crops. Some of the ripe spores gathered in the fall were in the month of January placed under a bell-jar and kept for some weeks in a moist atmosphere in order to watch the process of germination. They were examined from day to day but showed no definite signs of growth beyond swelling and becoming transparent, a failure due perhaps to their having been kept too dry after gathering or to the fact that as "resting spores" they required a longer period of rest before entering upon this stage of development. The germination of several species, however, has been observed by Tulasne, Prillieux and others, and their results may be briefly stated. In germination the endospore protrudes in the form of a closed sac or tube through the ruptured epispore,

attaining a length one or many times the diameter of the spore. This tube, the so-called promycelium, produces laterally or at its apex elongated, sac-

Fig. 5. Germination of spores of (1) Ustilago receptaculorum, (2) Urocystis Violæ, (3) Tilletia caries. (1) and (3) after Tulasne, (2) after Prillieux. Variously magnified.

like bodies called sporidia. In some cases the sporidia instead of being produced directly from the promycelium are borne upon branches of the latter which form a curious bundle or crown at its apex, as in Tilletia Caries and Ustilago Violæ. The early stages of germination are represented in figure 5. The sporidia, after their separation from the promycelium, are believed to elongate and form true hyphæ which penetrate the proper host and finally produce a crop of spores, thus completing the cycle of development. Upon this point, however, there is need of further observations.

Other Species.—About one hundred and fifty species of smuts are enumerated by Fischer de Waldheim in his monograph on the Ustilagineæ. Of these between twenty-five and thirty have been reported in the United States. One of the most common is Ustilago Carbo, which occurs upon several species of grasses and particularly on cul-

Fig. 6. (1) Ustilago Carbo, (2) Ustilago Candollei, (3) Ustilago Junci. All magnified 326 diameters.

tivated oats and barley, blackening and blasting their grains, but not inducing such marked abnormal growths as are characteristic of corn smut. Its spores are smaller than those of the latter species, the epispore is smooth and the spores are frequently united, two to several in a group, a peculiarity which may be observed in several other species. In Ustilago Candollei, which occurs on various species of Polygonum (not yet reported in the United States) it is not uncommon to find from three to six spores attached to each other and united by means of an isthmus, as shown at 2, figure 6. The remains of the isthmus may frequently be seen upon the detached spores. In Ustilago Junci, a species occurring upon the peduncles of the little rush-like plant Juncus tenuis, the spores are also found united in rows with the dried-up fragments of the spore-bearing hyphæ still remaining attached to them. These species, from the large size of their spores and the persistence with which they remain attached, will doubtless prove serviceable in the study of spore-formation. Several other species of the same genus occur in this country, but they are not of sufficient interest for our present purpose to require notice.

The smuts which attack wheat and rye are quite different in external appearance from those of corn and oats. Wheat smut, Tilletia caries, represented at 1, figure 7, produces spores of large size, nearly

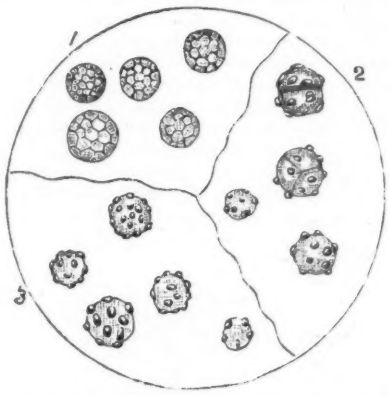

Fig. 7. (1) Tilletia caries, (2) Urocystis Occulta, (3) Urocystis Cepulæ. All magnified 326 diameters.

or quite spherical, with a distinctly reticulated epispore and oily contents. They give off a peculiar, disagreeable odor but appear to possess no very poisonous properties if we may trust the stories told of the use of bunted wheat, particularly in the manufacture of ginger bread where its disagreeable taste is disguised. The smut of rye is characterized by large spores which are often compound, *i. e.* two or more associated together. The true spores are surrounded by peculiar protuberances or appendages which are sometimes called accessory spores though they do not appear to have anything to do with germination and are not spores in any proper sense.

Another species of the same genus, Urocystis Cepulæ, occurs on cultivated onions, and a few years ago became so prevalent in some parts of Connecticut as to nearly destroy the onion crop.* The spores very closely resemble those of rye

*Dr. W. G. Farlow, 24th Annual Report, Mass. State Board of Agriculture.

smut already described, but are rather smaller and are mostly simple instead of compound.

The exact therapeutic value of these various species or of any one of them, necessarily remains for the present undetermined. Meantime Ustilago Maydis, from its great abundance and readiness of collection, will doubtless attract most attention, while the favorable notices it has already received will commend it to intelligent investigation.

[Written for the Therapeutic Gazette.]

Notes on California Flora—Ephedra Antisyphilitica, Anemopsis Californica, Anagallis Arvensis, Larrea Mexicana, Aspidium Rigidum, Etc.

By J. G. Lemmon, Oakland, Cal.

EPHEDRA ANTISYPHILITICA. Meyer. This genus of peculiar plants belonging to the great family of Gymnospermæ or cone-bearers, is found only in desert regions of Asia and North America. There are about twenty species in all, five of which inhabit the great plains of the interior, especially downward in the southern portion near the Rio Grande and Colorado. The American species are disposed in two groups; the first distinguished by its parts (scales, bracts, branches, &c.,) being arranged in pairs; the other having the same parts in threes.

The first group contains two species, one of which is named Antisyphilitica, the most noted species of the entire genus; the other species has lately been separated from it, and called E. Nevadensis by Prof. Watson of Cambridge.

The second group, the one whose parts are arranged in threes, contains three species—E. Californica, E. trifurca and E. Torreyana.

All these species are much alike, have the same taste and apparent properties, and the native citizens make no distinction in the gathering or using of them.

If there is any difference in the qualities of Ephedra on this continent it has not yet been discovered, but still such may exist. No real scientific examination has been made until recently, and that was almost entirely confined to distinctions of form that serve to distinguish the species. But recently there was supposed to be only two species, E. antisyphilitica and E. trifurca.

That all the species have the same reputation is implied in Prof. Watson's description of the genus where this sentence occurs: "Of little value except for their well-known medicinal virtues, respecting which see Rothrock in Wheeler's Report, Vol. VI., p. 50."

In this Report Dr. Rothrock says of this shrub: —The Spanish names "Canutillo," "Tepopote," the English name "Whorehouse Tea," and the scientific name "Antisyphilitica" may be regarded as sufficiently indicative of the alleged properties of this plant. The stems of the plant are largely used in decoction as a remedy for gonorrhœa. Precise clinical results are wanting to determine its real value. However, by common consent among the populace, and so far as I can learn from medical men of the region, (Arizona) it is of real service.

Dr. Loew of the Wheeler Ex. analyzed the plant and though he did not discover properties which he thought equal to produce the positive and effectual cures alleged, he did find a red amorphous powder, peculiar to the plant and which he named Ephedrin, and to this he attributes the remedial properties. Besides this peculiar powder, the analysis showed the presence of tannin and tartaric acid, also pectin. The tannin belongs to the glucoid group furnishing sugar on treatment with acid, and upon dry distillation pyrogallic and carbonic acids. It is this tannin that splits up into sugar and the "new amorphous powder—Ephedrin."

In a paper recently published by Dr. Rothrock he quotes in essence the above statements and adds: "Some well informed medical gentlemen of the army believe (as I also do) that the plant is worth trial and investigation by regular physicians. The question, too, arises as to whether this Ephedrin cannot readily be isolated and tried alone, fully and fairly. Certain it is that few vegetable productions have so strong a popular belief in their favor."

I will add to the statements of these medical gentlemen, that in conversation recently with physicians and intelligent citizens of Arizona I heard the uniform expression of confidence in the virtue of this shrub as a remedy for venereal diseases. From my frequent trips through the region I have become well-known as a botanist, and quite often persons of both sexes have called me one side and furtively shown me twigs of ephedra declaring that it was a sure and speedy cure for skin diseases.

Anemopsis Californica. "Yerba del Manza." This plant enjoys a high reputation in S. California as a remedy for rheumatism and as a diuretic. Also it is largely used to cure "purgasion," the Spanish name for gonorrhœa.

The natives regard it as a panacea and keep a quantity always on hand in bottles. They use it for fevers, colds and bowel disorders, and illness of any kind, and regard it very highly. The Spanish name "Yerba del Manza" means the "mild herb," that is the herb that mitigates, that cures.

It is the root and young stems and leaves that are used and the process is by decoction. The plant grows in alkali soils along desert sinks and brackish streams, from S. California to Texas.

A second species was supposed to have been detected many years ago by Prof. Bolander after whom it was named, but the distinction does not hold, it being merely a smooth variety.

The name of the genus is now called by the great English botanists, Bentham & Hooker, identical with an old genus, named for a German botanist, Houttuynia—a name so unpronounceable that we hope Americans will hold to the beautiful name of Anemopsis, suggestive of the lovely Anemone, so well known at the East.

Anagallis arvensis, Linn. "Scarlet Pimpernel." This little plant has been introduced in California from abroad, and like several other importations it flourishes here far better than in its native home. It grows sparsely along unfrequented streets and in the commons of Oakland, often invading a neglected garden.

Its properties are well-known at the East and are set forth in the Materia Medica. Dr. John Fearn, of Oakland, has lately brought it into use

here and especially as a remedy in rheumatism.

This plant is very succulent, dries away excessively so that large amounts must be gathered to obtain a few pounds of the dried article.

I gathered (with the help of a school of boys,) some six sacks of this plant last season, the whole drying down to thirty-four pounds when shipped.

Larrea Mexicana. Hook. "El Gobernado." Sp. This, the "Creosote bush" of the Colorado region, enjoys an excellent local reputation as a remedy for nearly all ills, including rheumatism, and for skin diseases applied either externally or internally. Large quantities are sent down into Mexico annually in response to an increasing demand. The plant has a very strong smell, is not eaten by any animal of the country, not even a mule, and this fact at once suggests the presence of some medicinal property.

Lately much interest has been excited in this shrub by the discovery of a gummy exudation found on the plants in certain localities, and caused by the punctures of a species of woolly aphis. This gum is found to be equal to the Asiatic gum shellac, and the dye derived from the insects is a beautiful purple, that may become much desired.

The slender twigs are gathered in bundles and with the evergreen leaves thereon dried in the sun and packed tightly in bales. The preparation for use is by decoction, any part of the plant being used and esteemed alike.

Aspidium rigidum. Variety argutum. Eaton. This fern is found in certain ravines of the Oakland hills and southward along the Mt. Diable range; also sparsely along the west foot-hills of the Sierra. It is a tall, robust fern, several fronds rising annually from the same caudex to the height of fifteen to thirty inches. The fronds are rather rigid, twice pinnate, the pinnæ broadly oblong lanceolate, divided to the rachis into many pinnules, the latter oblong, incised or doubly serrate with spinulose teeth. The root-stocks are stout, nearly erect, with strong black rootlets. These root-stocks or rhizomes are the part used for medicine, the portion being freed from roots, dried and shipped in sacks.

For many years this fern root has been known, locally, as an agent for the removal of tape worm. According to Dr. H. Behr of San Francisco, and the late Dr. Trask, both well-known on this coast for their eminence in the profession, the preparation from this fern, enjoys their highest confidence in removing tape worm.

Dr. J. H. Bundy of Oakland has tried it with excellent results, as he states in an article recently contributed to the Medical Journal of this city, of which he is one of the editors.

The oleo-resin derived from the rhizomes is supposed to be similar to that of the male fern (A. filix-mas), but the result as ascertained here is more certain, and is harmless and painless.

Rhododendron occidentale. Gray. "Western Azalea." This beautiful, large flowered shrub was until lately classed with the Azaleas from which, however, it must be separated when the whole of the two families are considered. From experience I know that the plant is poisonous for we nearly lost a valuable mule from his browsing perforce, upon a bush one night near Yo-Semite Valley.

This bush with a near relative, Ledum glandulosum, have a strong and suspicious odor, and stock men regard them as fatal to their flocks, hence either hasten their animals by the places where they grow, or often take other roads, it may be several miles aside, in order to avoid the danger of eating them.

This poisonous quality may be of great service if controlled. The subject deserves attention.

Eurotia lanata. Moquin. "Winter Fat." A white wooly plant of the interior plains, especially southward, and held in great repute as a winter forage, animals getting fat upon it quickly though at first avoiding it. "Of this," writes Dr. Rothrock, "we had the strongest evidence furnished by mules taken from Missouri to Colorado. They would not touch it. The Utah band, however, eagerly devoured it."

Prof. Watson thinks that cattle feeding upon it acquire a disagreeable flavor to their flesh. He also states that this plant is used as a remedy in intermittents.

All these qualities indicate that the Eurotia lanata may be of service if rightly handled as a promoter of flesh-making.

Torreya Californica. Torr. "Cal. Nutmeg." Another spicy leaved and very beautiful tree found in the canons both of the coast range and the Sierra. The fruit resembles a nutmeg only in shape, being full of terebinthinic oil, and a pleasant smelling ingredient unknown. Both these Yew trees are worthy of trial.

Also the Indians make use of the cones of the "Big Trees." John Muir declares that the resin from those cones has a high reputation among natives for the cure of cough and lung disorders. I know of the Indians at the Big Groves hoarding these cones with care:—"Heap good medicine."

Umbellularia Californica. Nutt. Formerly Oreodaphne. "California Laurel." This beautiful slender-limbed tree with long fragrant leaves and large nut-like fruit is certainly of value as a stimulant or a toilet article. Its relations to the bay trees of the South indicate that it may have similar properties. Some persons are violently affected—my wife is thrown into a violent headache—when coming near the tree at times. These trees are found on the coast and Sierra foot-hills.

Euphorbia serpyllifolia. Eigel. "Golordrena." "Sheep Poison." This small milky juiced plant with several other species of the same genus have a high reputation for the cure of bites or stings caused by snakes, tarantulas, scorpions or other venomous animals; also for a great many disorders of the flesh. In July of 1878, while at Yo-Semite, a tourist in the adjacent tent was bitten on the hand by a rattle snake (crotallus) that nearly caused his death. His arm and body swelled nearly to bursting before an old Spanish woman could be found and brought to his side—no physician being within forty-seven miles. The woman at once administered preparations of this plant externally and internally to the immediate relief and speedy cure of the frightened patient.

Several other plants of this great order of Euphorbiaceæ seem from their colored juice, heavy odors or poisonous effects, to contain active principles that might be used as antidotes to other poisons, &c. Among them are:

Eremocarpus setigerus. Benth. "Moth Mullen."
Croton Californicus. Müll. "California Hemp."
Argythamnia serrata. Müll. "Sneeze Wort."
Bernardia myricæfolia. Watson. "Myrtle Wax Bush."
Acalypha Californica. Benth. "Bush Spurge."
Stillingia linearifolia. Watson. "Fœtid Bush."

All these have more or less celebrity as medicines. They love the hot, dry desert sands, and from the poisonous deteriorated atmosphere distil their peculiar acrid properties.

[Written for the Therapeutic Gazette.]

Oleum Lini, in the Treatment of Phthisis Pulmonalis.

By J. M. Blackerby, M. D., Milford, Ky.

IN offering this paper to the readers of the GAZETTE, I do not know that I am presenting anything new to the profession; but having used the medicine that heads this article, for several years with much satisfaction to myself and great benefit to many patients that have fallen under my care, I deem it but right to offer to others the results of my observations in the use of the article, if perchance none of my readers may have been experimenting with the drug. And lest any should conclude that one or both of the ingredients that enter into the prescription may have a larger share in the the good results I have obtained in the treatment of my cases, I deem it necessary, only, to say that many others, as well as myself, have often and freely, perhaps much too freely, prescribed the use of brandy or whiskey or both; and as to the other and remaining article, honey, scarcely any busy practitioner has failed to observe the frequency of its use in the compounding of prescriptions especially of former days, and there are few who do not know of its very general use in the domestic treatment of bronchial and pulmonary disease; and though it may, and perhaps does possess some mollifying properties, yet one would scarcely look upon it as a very active agent in the cure of that dread disease pulmonary consumption, in any of its stages.

Before I commenced using the articles as I now compound them, I am unable to say that I was satisfied with their use in any single instance; certainly I have never seen anything approaching permanency in the relief that may have been obtained from their use. Hence, my surprise and gratification with the formula as I now use it, and which I offer for trial by others; and if it succeeds as well in their hands as it has in mine I shall feel rewarded in having suggested its use in such conditions as it is applicable to the treatment of. I do not wish, however, to be understood as saying or believing that it is a panacea for all cases of phthisis. Like all medicinal agents it is limited in its sphere of action, and like many other medicines, sometimes fails when the indications even seem favorable to its curative action, and a hoped for favorable result. I will give four or five cases, taken from my case book, the first of which I treated twenty years since; the others are of recent date.

Case 1.—S. M., a man of 32 years of age, farmer, living for several years previous in Southern Kentucky, but recently moved into this section of the State. Was called to him Sept. 12th, 1860. Found him confined to the bed the greater part of the time, but able to sit up an hour or two during the day. Upon examination I found much emaciation, with feebleness and general palor of the surface, pulse ninety-six, feeble and irregular; skin moist and exuding a sour and offensive odor, tongue broad, thin and covered with a white pasty fur; mucous membranes of the mouth pale, and secreting a viscid sputa; urine tolerable free and of acid reaction; bowels moved once or twice a day, but inclined to constipation; appetite variable and capricious.

This patient had been under treatment while in Southern Kentucky, by two able physicians for tubercular consumption, and was assured by them that he could not live over the coming spring, and by their advice was induced to remove his family to this section, that they might be with their friends and relatives. It was thus he came under my care. On my second visit and after a more careful and thorough examination, I, upon percussion and auscultation found considerable dullness in the inferior lobe of the right lung, and mucous rales in the upper part of each lung. Though I failed to find any cavities in either lung I found he was occasionally expectorating small particles of, or very small tubercles, varying from the size of a cabbage seed to that of a No. 1 shot. These seldom made their appearance, except after coughing which only troubled him for a short time of mornings. Believing it a case of incipient phthisis and to some extent complicated with hepatic derangement, I instituted the following treatment: Ordered,

℞ Hydrarg. submuriatis, gr. jv
Leptandrin, gr. viij

Mix, and divide into chart. No. 8.

Sig,—One morning and night.

This continued until the fourth day, when I ordered,

℞ Podophyllin, gr. ij
Sodii bicarb., gr. xxjv

Mix, and divide into chart. No. 12.

Sig.—One three times daily until all are taken, at the end of which time I saw the patient again and found much improvement in the appearance of the tongue and mucous membranes, the tongue clear and membranes of a more healthy color. At this visit I ordered,

℞ Olei lini, raw, ʒ jv
Mellis pur., ʒ jv
Spiritus frumenti, ʒ jv.

Mix, and thoroughly incorporate by agitation.

Sig.—A tablespoonful thrice daily.

With this prescription I left my patient not to see him for one week, but with directions to use a pinch of soda in each drink of water taken. This I did to counteract the acidity of the blood indicated by the pallor of the mucous membranes. On my next visit was surprised to see the improvement in my patient; and ordered him to continue the same treatment, and to visit me at my office when the medicine was out. At the end of three weeks he called and was doing so well that I advised the continued use of the remedy during the winter and spring, which he faithfully continued to do, and during that year he volun-

teered in the army and passed through the war, and is now at home with a large family and is a stout healthy man.

I find that to report all the cases I proposed will require more space than I desire to ask, hence I will confine myself to the report of a case, among several I have recently attended and discharged apparently cured.

Case 2.—Miss E., æt. 15, small and very delicate, but a great sufferer for seven years, while under the care of seven or eight different physicians. Was called to see her Nov. 13, 1880. Found her unable to lie down in consequence of great dyspnœa, expectorating a small quantity of blood every three or four days—the quantity not large but of a bright scarlet in color. I did not deem it vicarious, though the menses had not made their appearance yet. This young lady was very thin in flesh, in fact greatly emaciated, skin pale and bloodless, mucous membranes very pale, tongue thin and coated with a white fur, but dark in the middle and at the base; pulse 112, small. Bowels constipated; urine nearly normal and free; cough very troublesome; pain in the left breast, and a gurgling sound in the top of the right lung and constant pain in the right side. Diagnosed phthisis pulmonalis, and told her aunt with whom she was staying that I feared the case had gone too far to receive any benefit from treatment other than palliative. Ordered,

℞ Podophyllin, gr. ij
Leptandrin, gr. x
Sodii bicarb., gr. xij

Mix, and divide into chart. No. 12.

Sig.—A powder night and morning, and to take a pinch of bicarb. of soda in each drink of water. Ordered also,

℞ Olei lini, raw
Mellis pur.
Spiritus frumenti aa, ʒ iij

Misce et. Sig.—A dessertspoonful three times daily.

In regard to the diet, I direct the free use of fresh mutton, beef or veal, the first two preferred, also fowl, fish and such vegetables as are found to agree with the patient. I always require the meats to be roasted, baked or boiled, well salted but not otherwise too highly seasoned. I deviate from this course only for breakfast; then I allow a small mutton chop or a small beef steak cooked rare, and with it a cup of coffee prepared as follows: An egg broken into a cup and whipped to a froth and the cup filled with rich boiling coffee and sweetened to suit the taste. Half an hour after the morning meal if the strength of the patient and weather permit, I require him or her to walk one-fourth of a mile, and gradually increase the distance as health and strength improve. I called at the end of two weeks and found my patient so far improved as to be able to lie down to sleep, appetite improved and cough much relieved. At this visit I added a tonic treatment to to the former prescription, and continued same for three months.

This patient is now apparently well, and able to assist in all the house work. Her weight when I commenced treating the case was ninety pounds. The first day of the current month she weighed 112; is entirely relieved of cough, pain and dyspnœa; in fact looks as healthy as any girl in the neighborhood. Her friends and neighbors think it a remarkable recovery, and so it seems. Now, to what is the cure in these cases to be attributed? Are they nature's cures, are they spontaneous, or are they due to the agents, one or all of them used in the cases?

While I freely admit the efficiency of each article used, in producing some specific effect on that part of the diseased organism for which it was prescribed, I honestly believe the cure of the disease, phthisis, is in each case due to the action of the oil. Whether if administered alone, it would have the same effect or not, is a question I am unable to answer; or whether the combination renders each article of more certain value as a remedy, I am not prepared to say; but, certain am I, that in my practice I have found no agent I feel so satisfied with the results of, as this in the treatment of phthisis. I would not be understood as saying it is a panacea for all types of the disease, by any means; nor would I be understood as saying it will cure when complications are present if no other agent is used to remove the complications. To use such is the rational mode of proceedure in the treatment of all diseases, and all recognize the necessity of doing so. These cases are offered for the consideration of such of the profession as may care to read this article.

[Written for the Therapeutic Gazette.]

Chian Turpentine in Cancer—Report of Three Cases.

By Enoch W. King, M. D., New Albany, Ind.

IT was with feelings of regret and disappointment that I read the editorial in the February number of current volume of the THERAPEUTIC GAZETTE, declaring that there is nothing in the high hopes we had builded of curing our cancers by Chian turpentine.

It is possibly true that there is nothing curative in the action of the turpentine, but I think we are perhaps too hasty in rendering our verdict against it, when we remember the ability, veracity and professional standing, of Dr. Clay, and the chronic nature of many malignant growths, to say nothing of the possibility of a spurious article having been used in the unfavorable cases. It is not yet twelve months since Dr. Clay's first article appeared, and to pass in judgment upon its merits in a disease which often continues for years in its course, does appear to me rather premature. From my limited experience with the drug in cancer, I cannot admit with you that it has even failed to give relief, but I am convinced that if it proves in the future to give the comfort and relief from the distressing pains in cancerous disease that it has in my hands, it will prove to be a great blessing to such sufferers.

In brief I give you my observations with it in three cases, in two of which there is no doubt about the diagnosis.

Case 1. Mrs. H. T——, æt. 35, without any apparent cause began to have uterine hemorrhage in May, 1880, which lasted during the summer months, quite profuse at times. In July her physician found almost the entire uterine cervix gone,

and an ulceration on the left side extending deep into the body of the womb. He pronounced it malignant and gave an unfavorable prognosis. One of the most eminent gynecologists of Louisville, Ky., examined the case and unqualifiedly pronounced it cancer. At that time the hemorrhage was continuous and often profuse, the tumor was filling the pelvis and extended two inches above the pubes, especially on the left side. She constantly had both vesical and rectal tenemsus, and and was so much exhausted from the pain and hemorrhage that she was unable to sit up out of bed, and had to resort to increasing doses of morphine to give her any relief whatever. She had no appetite and her bowels were very costive. In October she commenced taking the Chian turpentine in pill form as recommended by Dr. Clay, and had taken the medicine only a few days when the hemorrhage became less, the pains milder, and her general system presented a better condition. The pills proving nauseating the emulsion in tragacanth as recommended by Dr. Clay was prescribed, of which she took half ounce every four hours. About this time I took charge of the case. The uterine discharge decreased in quantity and assumed the characters described by Dr. Clay, the pain was less lancinating and not so continuous, and although the rectal and vesical tenesmus continued unchanged, yet she improved in every other respect. About the middle of December our supply became exhausted and we procured an ounce from a different drug house. In a few days from the time she commenced on this bottle she did not feel so well. I took the copies of the GAZETTE for July and August, 1880, containing the tests for the pure Chian to my pharmacist and asked him to test the specimen on hand, which he did, and found it to be without doubt, largely composed of Canada balsam. He immediately sent direct to Parke, Davis & Co., of Detroit, and received from them a supply which answered to the tests as a pure article; of this the patient commenced taking as above and has continued it uninterruptedly to the present. Her condition is now briefly as follows: The tumor is not quite so large above the pelvic brim and not so tender upon pressure, the vesical or rectal tenesmus is quite constantly present, either one or the other, seldom both at the same time, but in a very mild form compared to what it was in November. There is now a light watery discharge from the vagina—the odor so common in cancer has never been present—and occasionally a little blood will be passed, but she has never had a hemorrhage since she commenced taking the Chian. He menses came on December 14th, and again on January 21st, each time lasting about the same length of time as when she was in health, and but slightly more profuse. Her bowels are quite regular, appetite and digestion excellent, and sleep good. She still takes the morphine one-third of a grain at a dose once or twice in the twenty-four hours, when the tenesmus is uncomfortable, and she declares were it not for that suffering she could do very well without it. The local appearances are very much the same as at the first examination, at least there is no extension of the ulcerated surface. She has taken no other medicine nor has she had any local treatment except three light applications of iodized chloral phenol, (Formula of J. P. Thomas in *American Practitioner* for May, 1877—page 286,); these were not considered beneficial and were discontinued—and a daily washing of the vagina with an infusion of oak bark, quite warm, substituted.

When we consider the rapid and grave symptoms early manifested in this case, that the patient has not been informed of the positive opinion of her physicians that her trouble is malignant, and then witness her improved condition under the Chian turpentine we are forced to the conclusion that the medicine has been efficacious in giving relief, if not a cure, which latter from present appearances is not an impossible thing to hope for.

Case 2. Mrs. F——, æt. 58, passed climacteric about 45, and had good health for six years, when she began to have a slight uterine hemorrhage daily, which has continued almost without interruption. She is very much emaciated and a constant sufferer from pains about pelvis and hips; a hard tumor lies above the pelvic brim, the uterine sound passes four inches within cavity and backward, indicating retroversion. She has the cancerous cachexia to a marked degree, and sometimes the vaginal discharge has much the odor characteristic of malignant disease. There is no appearance of cancerous ulceration about the cervix and os. Although she has much the appearance and symptoms of uterine cancer I have never been satisfied that the disease was of that nature, but failing to give her any relief from any medicine that I had prescribed, or any treatment instituted, I put her upon the Chian turpentine emulsion, half ounce three times a day. Relief was marked in a few days; the pain and hemorrhage has almost entirely disappeared, her general condition is much improved, and she is now enjoying better health than for years. I have not recently had an opportunity to make any local examination to ascertain her present condition in that respect. I have repeatedly told her that I could find no cancerous growth about the womb, therefore we cannot attribute her improvement to her hopes and faith in the "new cancer cure."

Case 3. Mrs. T——, æt. 48, has well marked scirrhus of the breast which became an open sore last September. The diagnosis is clear. She has taken four bottles of the emulsion with marked relief from pain and considerable diminution of the offensive odor.

I do not claim that I have any reason to hope for a cure in any of these cases except the hope inspired by the success attending the cases reported by Dr. Clay, and the marked mitigation of all the leading and distressing symptoms which has been so clearly shown in each of the cases reported. However I do claim that we should not pronounce judgment too early upon the curative powers of Chian turpentine and that we should grant a recognition of its virtues in relieving suffering in a condition which nothing else in the pharmacopœia has ever been found to relieve, and I think that several of the reports published other than those of Dr. Clay would justify us in granting this recognition.

I had intended to report my experience at some future time, when the results could be better known, but the editorial referred to prompted me to do so earlier, and to plead that the question may still be held *sub judice*.

(Written for the Therapeutic Gazette.]

Elixirs.

By W. T. Thackeray, M. D., Philadelphia, Pa.

THE discussion which has for the past year agitated the medical and pharmaceutical fraternity in our country, in regard to the admission or non-admission into the U. S. Pharmacopœia, of that class of preparations known as elixirs, has attracted my attention, not only to the subject, but to the preparations themselves, as manufactured and sold by our leading pharmacists, and a careful investigation of the subject has revealed facts which are not flattering, either to the manufacturer or the consumer; and it is my object in writing this paper to call the attention of the medical profession, to this uncertain class of medicaments, that it, as the causa prima, should use its influence to have an absolute standard created, within the limits of sense and reason, and to which the preparations of all manufacturers should be made to conform. And in this connection I would also suggest, that the profession at large, direct their efforts toward the establishment of a chain of pharmacy in our medical colleges, for the reason that the two branches of the profession are nearly allied, and are each dependent upon the other; as well as for the more practical reason, that the physician should be able to judge intelligently of the preparations that are furnished him by the pharmacist both upon extemporaneous prescriptions and officinal productions.

My connection with the two professions covering a period of nearly twenty years, has made these wants most apparent to me, as I presume they are to my brother practitioners as well.

But, *retournons a nos moutons*, our aim in prescribing this class of pharmaceutical preparations is, not the medicinal effect to be obtained, but, that the senses of our patient, may not be offended, and our reputation for administering pleasant medicines, established; and lastly, with the hope that good may result, and the knowledge that no harm can follow their administration.

I can best illustrate my meaning by quoting from an editorial in the Michigan Medical News, entitled "Does it pay to be strictly honest, professionally?": "A little colored water put up in a bottle, with specific directions as to dose, etc., will stand precisely in the same relation to the influence of mind over matter, as would a more expensive drug, where in reality none is required.

To the observing and practical physician, evidences are every day accumulating to demonstrate the fact that the practice of medicine does not solely consist in the administration of drugs nor success in the effects which they produce. The old adage, that the best doctors are those who gave the least medicine, should not entirely be overlooked, and the prescribing of placeboes is very often an excellent way of carrying out that principle."

I think that I am safe in the assertion, that nine out of ten intelligent practitioners will agree with me in these conclusions.

As a resultant there are three classes of patients to whom these "elixirs" an applicable, viz: The wealthy, because their cost is a recommendation; the fastidious, because their appearance and taste render it a pleasure, rather than a cross to take them; the convalescent, because a mild tonic can be administered in this form without the repulsive features of the tonic mixtures of forty or even twenty-five years ago; and as placeboes they are invaluable.

Now let us examine a few of them and see how they compare with the ideas expressed above: one, for example the Elixir of Calisaya, Iron and Quinine, which, the label before me attests contains to each fluid ounce forty grains of calisaya, eight grains of the pyrophosphate of iron and four grains of the Sulphate of quinine. I ask in all sincerity, can any physician, in his senses, expect to find a pleasant tasting mixture, with such an amount of the alkaloids of cinchona, as well as the salt of iron, said to be contained in this? and yet our pharmacist gives us such a preparation, elegant, and pleasant to the senses of sight, smell and taste, and gravely tells us upon the label that such are its contents, expecting us to rely, not upon our own judgment, and chemical or pharmaceutical knowledge, but upon our confidence in his veracity.

In prescribing such a preparation as this, if by any means we could be prevailed upon to do so, and admitting the truth of the label, what results would we expect to obtain? My answer would be, that we should have the anti-periodic effect of the quinine with possible quininism, and not the mild tonic effect, which we are assured by the label, would ensue; but it is useless to pursue this article further, as its very name is an insult to our intelligence.

Another of these elegant combinations is the "Elixir of the Phosphates of Iron, Quinine and Strychnia," and again I ask, who can expect a pleasant tasting mixture from such a compound of bitters? Each fluid ounce (I am again consulting a label), contains sixteen grains Phosphate of Iron, eight grains of Quinia, and one eighth of a grain of Strychnia in combination with the usual elixir basis. It is unnecessary to do more than call attention to the composition of the preparation, to prove that it is an imposition upon the credulity, as well as the intelligence of the most unaccomplished member of the medical fraternity.

As a third and final example I shall take that class which are offered for our use, and which are said to contain pepsine and bismuth in combination. These preparations to hold the two bases in solution, must be neutral, and yet it is a well established fact that pepsine to be effective as a therapeutic agent, must act in the presence of, and in combination with, an acid. Alcohol also destroys in a great measure, if not totally, the digestive properties of pepsine, and yet alcohol enters into all the preparations of this class.

The fact that alcohol is used in the manufacture of all elixirs has been advanced as an argument against their employment as medicines, but as the same argument may be brought against the employment of many important articles necessary to the animal economy, I do not think that the objection carries any weight.

The answer of the pharmacist to this subject, is, that we as physicians are not versed in the operations of pharmacy, and as a consequence, are not

competent judges; unfortunately, in the majority of cases, his assertion is but too true. The physician who uses this class of remedies finds in most cases that the article prescribed answers the purpose, for the reason before stated, that no drug was necessary, and he is satisfied to accept, as true, the *ipse dixit* of the pharmacist, but if the manufacturer is honest, and we have every reason to suppose that some are, he may be surprised to find effects which are as unlooked for as they are unpleasant.

I propose in another article to give the results of a series of analyses of the leading ("Bombastes Furioso") elixirs of the prominent manufacturers, and I shall so describe my methods that any physician may satisfy himself of the truth of my results, and thus relieve me of any charge of favoritism, as well as, giving more weight to my suggestions made in regard to the reorganization of the list, their admission into the codex, and the teaching of pharmacy in our medical schools.

[Written for the Therapeutic Gazette.]

Berberis Aquifolium, Oleic Iodoform and Oleate of Bismuth in Leucorrhœa.

By A. J. Roe, M. D., Taylorsville, Ill.

BERBERIS Aquifolium is said to be tonic, alterative and diuretic. That it does possess these properties, no one that has had any experience with it will deny.

At this time, I wish more especially to call the attention of the profession to the value of berberis aquifolium, as a remedy in female weakness, so called. I am well satisfied from the good results I have obtained from this remedy, that it is the remedy, par excellence, in these cases. Berberis alone and unassisted by any other remedy or local application will relieve and generally cure vaginal leucorrhœa not depending upon or kept up by, mechanical causes. I am well aware that this is a broad assertion and will be taken, *cum grano salis* by the majority of professional men, but I make the assertion nevertheless, and am well satisfied that a careful trial of this valuable remedy will convince any fair-minded person that I have not over estimated its value in these cases.

As a matter of course we should first ascertain whether the discharge arises from mechanical causes or not, before we can expect a cure from the use of this, or any other remedy.

When there is simply a leucorrhœal discharge the patient being otherwise in good health, I usually order one ounce of the fluid extract of berberis aquifolium to be added to three ounces of the syrup of tolu, and let the patient take a teaspoonful three times a day before meals. No local application of any kind need be used. The following combination has given me excellent results in all cases of leucorrhœa, amenorrhœa, dysmenorrhœa, and as a general uterine tonic and "female regulator."

℞ Ext. berberis aquifolii fluidi, ʒj
Ext. viburni prunifolii fluidi, ʒss
Tr. pulsatillæ, ʒj
Syr. tolu, q. s. ad. ʒjv.

M. S. Teaspoonful three times a day before meals, in water. This combination will be found to give good results, not only in the troubles above mentioned, but in all cases where there has been much trouble from irregularties of any kind.

The best local applications I have ever used in ulceration of the os, hypertrophy, etc., are oleic iodoform, and the oleate of bismuth. Oleic iodoform, is prepared by dissolving 20 grains of iodoform in one ounce of oleic acid. The oleate of bismuth is prepared as follows: Add one part by weight of sub. nitrate of bismuth to eight fluid parts of oleic acid, mix well and let it stand for two hours, then heat until all seems to be dissolved; when cool, add an equal quantity of cosmoline. Both these remedies should be applied by means of absorbent cotton. It is a well known fact to every physician that the treatment of these female complaints is not at all satisfactory, and any remedy exerting a specific action in these cases will be gladly welcomed by every progressive physician.

I will give a few cases that have been cured by this method of treatment after all the usual remedies had failed to produce any benefit whatever:

Mrs. H. M., living seven miles north-west of this place. Has been troubled for about twelve years as follows: Constant and irritating leucorrhœa, pain in the side and back coming on a few days before her menstrual period; pain and burning in the top of the head. Greatly prolonged and painful menstruation. Patient has had no children since the continuance of these difficulties, although her menses have appeared regularly. She has received treatment from several physicians of all schools but with little or no benefit. I put her upon the above combinations together with the local application of the oleate of bismuth, with the result a complete cure of all her troubles in about six weeks.

Mrs. C., residing three miles west of here, had been troubled with persistent leucorrhœa, almost constant pain in the back and left side, with great loss of flesh and strength. She had been treated by several good physicians, and had tried many remedies, but all to no purpose; the discharge still continued and the patient looked as if she might be in the last stages of consumption. She was put upon the above combination and no other treatment, and in the short time of two months was completely relieved of all her difficulties. This patient was shortly afterwards caught in a cyclone and carried by the wind some eighty yards, breaking her arm and otherwise injuring her, her two children being both instantly killed. Shortly after this the leucorrhœa returned as bad as ever, but after taking the berberis aquifolium a few weeks it ceased, and she has had no return of her former troubles.

Miss S., a servant girl applied to me for relief of the following symptoms: Prolonged menstruation, with considerable pain, emaciation, cough, night sweats and general debility. I prescribed forty drops of the oil of tar dissolved in two drachms of alcohol and enough strained honey to make four ounces, and ordered the patient to take a teaspoonful night and morning. Also to take the berberis combination as above, three times a day in water before meals. The result in this case was truly surprising; all the symptoms abated under

the use of four ounces of the above mixtures and the patient now enjoys the best of health, no more of her former troubles remaining.

Many other cases treated by this method could be given if necessary, but they would only be a repetition of those already given and therefore of no particular interest.

I sincerely trust that the profession will give this remedy a fair trial in these cases, feeling well satisfied that they will be well pleased with its action, and agree with me that in berberis aquifolium we have a remedy well worthy of the name of "female regulator" and "uterine tonic."

Hospital Reports on New Remedies.

Report from U. S. Marine Hospital Service.

[Reported under direction of the Surgeon in Charge.]

THANKS to the liberality of the firm of Parke, Davis & Co., in directing their agent to supply this Hospital with such of their preparations as might be desired for trial, we have been enabled to use them in a certain number of cases, and desire to give a brief synopsis of the results obtained. It is not the intention to present anything original in relation to new drugs, but merely to confirm or dissent from what is claimed for them, as with but one exception, they were prescribed only for such diseases for which they are recommended.

Cascara Sagrada.—This remedy was prescribed with uniformly good results in habitual constipation. It produces very little if any discomfort and is certainly an agreeable and efficient preparation for the common complaint.

Berberis Aquifolium.—Combined with suitable local treatment, we have found this remedy of good service in several cases of syphilitic ulcerations. It seems to improve the general tone of the system with a like favorable change in the condition of the ulcer. It appears well worthy of further trial.

Grindelia Robusta.—This remedy was found to be very efficient in cutting short the paroxysms of asthma, and is well entitled to be classed among the standard preparations for the amelioration of this distressing disease.

Coto Bark.—Its use was limited to several cases of diarrhœa, but the results were not such as we were led to anticipate from the favorable reports of others.

Jamaica Dogwood.—This drug appears to act as a suitable substitute for opium in certain cases when the latter remedy causes much nausea and vertigo. Introduced into a carious tooth on a pledget of cotton, it generally allays toothache.

Rhus Aromatica.—Two cases of chronic rheumatism were much relieved by this drug, one case in particular. In other diseases such as diabetes, the results were indifferent.

Liquor Ergotæ Purificatus.—This is a very desirable preparation for the hypodermic administration of ergot, possessing apparently no irritating properties and hence is not followed by any unpleasant effects.

CHARLES C. BEERY, M. D.,
Act. Asst. Surgeon, M. H. S.
PORTLAND, MAINE.

Reports on New Remedies.

From Private Practice.

Coca in the Opium and Alcohol Habits.

By H. F. Stimmell, M. D., Chattanooga, Tenn.

HAVING put the fluid extract of coca (coca erythroxylon) to a very severe test, I am prepared to give you the result of my experience. To say that I am surprised or astonished at the wonderful, and almost incredible effects of that new remedy as a nervous stimulant would not adequately express my appreciation of it. I will report several cases:

1. Mr. X. Y. Had been addicted to the habit of taking morph. sulph. for about five years, commencing with one-eigthth gr., for lumbago, changing it from internal to external application (hypodermically over lumbar region), and gradually increasing the quantity until he reached the enormous dose of twenty-five grs. as a maximum, three to four times a day. His nervous depression became so great that he could not hold his pen, or button his shirt, or handle knife and fork at breakfast, without taking his usual dose directly after rising. He suffered from all the consequences of the drug. His mind became deranged, and he even attempted the life of his wife and children, after which, believing he had succeeded, he swallowed one drachm of morphine, followed by a five-ounce dose of paregoric with suicidal intent. I was called sometime after but found him suffering scarcely any from the effects of the drug, and the only treatment consisted in keeping him in motion. After his complete recovery I talked freely with him regarding his infirmity, and promised to cure him if he would pledge himself to buy all of his morphine from me, thus enabling me to control his doses. I started him with the allowance of three twenty-grain doses of morphine to be taken with a drachm of coca. In a week his morphine allowance had decreased to ten grs. a day and his dose of coca increased to one-half ounce, and now, three weeks after commencing this treatment, the morphine has been entirely suspended. Yesterday his wife came to my store handing me a package of powders of morph. sulph., labeled and dated by me for her husband, in which I had confirmatory evidence of his assertion of abstinence.

2. *Alcoholism.* W. v. N., German nobleman and formerly officer in the German army. Came to this country in 1874 in consequence of a misalliance with an actress, which forced him to quit the service. He settled in Northern Georgia as a farmer, raising beets for the manufacture of beet-sugar, and running also a large still for making peach and apple brandy. He soon fell a victim to temptation as fortune smiled on him, and degenerated rapidly from Mumm's, Hock and Haute Sauterne, to whiskey of the sixty-five-cents-a-gallon variety. His farm and property were dissipated and he came to my place (I was then practicing in the country,) as a tramp. Under the promise to reform I helped him to a position as night watchman in a coalyard. I put him under the coca treatment, and although he had two attacks of delirium tremens since he commenced it, he is now well and has apparently overcome the appe-

tite. On one occasion he increased his one-half ounce dose to one-and-a-half ounce, with the effect of causing a comatose sleep, the head buried deeply backwards in the pillows, most regular pulse and regular breathing. At this writing he has not tasted anything like strong drinks for four weeks. He says he feels strong enough to completely abstain, and feels that should the temptation be too strong coca will enable him to overcome it.

Elixir Phosphorus and Damiana in a Case of Impotency.

By A. F. Stimmel, M D., Chattanooga, Tenn.

IN the latter days of January, 1881, there came to my office Mr. W. X., a young man, lately married. Before his marriage he was known as one of the most straight-forward, solid and quiet young men in town. He came here from St. Paul, Minn., about six years ago. He complained of sexual impotency and failure to accomplish the sexual act, as in the moment of highest stimulation the erection goes away and a collapse of the penis resulted. After this catastrophe and continuing for from two to five minutes there was a voluntary "emissio seminis." I examined him closely and found his anatomical structure regular, chest broad and body well poised on a pair of broad, almost womanish hips. His sexual faculties, as far as he had tested them in his married state had previously been fair. He attributed the cause of his weakness to a shock he received in jumping from a wagon (a heavily loaded dray) on the sidewalk and coming down hard on his heels without relaxing the muscles of the leg. The shock was felt exactly at the spine in the lumbar region, where the lumbar plexus originates. The etiology of his suffering was clear to me, the shock to the spinal marrow being evidently the cause of the sexual inertia. I proposed pill phosph. gr. 1-50, one three times daily, and fluid extract damiana (S. & D.) gtts. 15 at the same time. Result: No improvement. Tried dieting. Gave food rich in phosphates and stimulating wines (sherry and port) but failed. Finally an elixir phosph. and damiana (P., D. & Co.,) was prescribed. I started with it on February 18, dose, teaspoonful every four hours for three days after which the same quantity was given four times a day till night. Result: March 12th the patient reported himself fully recovered and happy in the assurance of his wife that his labor of love had wrought its legitimate ends.

Sanguis Bovinus Exsiccatus, Piscidia Erythrina.

By J. L. Furber, M. D., Appanoose, Kansas.

DESICCATED BLOOD. While attending the National Eclectic Medical Association in Chicago, Ill., June, 1880, I was presented with a sample of this article, and had occasion to test it immediately on my return home, in some severe cases of cerebro-spinal fever (meningitis). In one of my most severe cases, in which acute softening of the brain ensued, the stomach would regurgitate its contents. I kept the patient alive for eight days, by first cleansing the lower bowels with warm water, and then injecting three drachms daily of desiccated blood. This acted admirably, was always absorbed, and never expelled, and its effect upon the pulse was perceptible within ten minutes after administration. After eight days' time the stomach regained something of its tone, and the first nourishment that it would bear was lean beef steak, baked perfectly dry, and fed to the patient half an ounce three times per day. The latter, I may remark, has been a favorite nutrient of mine in irritable stomach with collapse, in any disease. There was complete recovery in this case.

Piscidia Erythrina. My old teacher, Prof. S. H. Potter, used to tell his students to test new remedies upon themselves first, so I tested Jamaica dogwood upon myself, thoroughly, and was greatly pleased with its effects. It has no narcotic property, whatever, that I can discover, but is a pure anodyne, or nerve sedative, and I use it in all cases where an anodyne is needed, particularly combined frequently with gelsemium in the distracting pains of neuralgia. I have also found it useful in dysmenorrhea.

Abstracts and Translations.

[All articles marked with the * are translated by C. R. Cullen, M. D., Richmond, Va.

[Translated for the Therapeutic Gazette from the Gazette Medicale.]

Carica Papaya.*

The important question of digestive vegetable ferments and of vegetable pepsine has made great progress. M. M. Wurtz and Bouches in a new work lately received by the Academy of Sciences, have corroborated the exact report of their first researches, and of calling to the attention of all Europe to the great value, chemically and therapeutically, of papaine, which produces digestion as opium produces sleep,—singular coincidence, these two products are obtained in the same manner by incising the epidermis of the plants containing the valuable fluid. The milky sap is white—coagulated or not—slightly bitter and styptic. It contains a great quantity of albumen and of fibrine, which Vaunuelin compares to blood deprived of its coloring matter. It flows freely from blows or incisions into the plant, and is caught in flagons. It then has ten to twelve per cent of alcohol added to prevent fermentation, and is sent immediately to Paris. It arrives always coagulated. By adding alcohol it again becomes liquid, and after standing a while a clear liquid is separated and a white precipitate, constituting a large amount of albumen, of fibrine and much of precipitated papaine. A new precipitation by alcohol and several washings in water until a pure ferment results.

Papaine in suitable doses has a most energetic digestive action on all albuminious articles, white of egg, casein, glutin, fibrine. In the laboratory of the Academy of Medicine, digestion is conducted at a high temperature with a solution of ten centigram-

mes of papaine. When the solution is acidified the digestion is still more rapid. It is not only a solvent of albuminous matters but a veritable digestive producing peptones of milk of fibrine, of eggs, having all the chemical reactions of peptones, such as M. Henninger has indicated, and the same results.

The experiments of the laboratory only confirm the results obtained therapeutically. In gastralgia, in dyspepsia, in dysentery, in all cases where the stomach is disordered, either from insufficiency of gastric juice or overabundance, papaine in syrup, elixir or cachets brings the stomach to its normal digestion, and is used with great success in gastritis, gastralgia, diarrhœas, infantile vomiting, etc., etc.

[Translated for the Therapeutic Gazette from the La France Medicale and Gazette Medicale.]

Maternal Lactation.*

M. R. Blache shows the advantages of maternal lactation to both mother and infant. It is a preservative function against puerperal accidents. It suppresses milk fever, neutralizes the tendency to hemorrhages, and uterine deviations and affections. Uterine absorption is more rapid and complete, and the mother gains health more perfectly.

There are, however, females who cannot nurse their own children, have no milk and generally follow their mothers and grandmothers in this peculiarity, and often for many generations the faculty of giving milk is lost.

In the paper read before the Paris Academy of Medicine, after showing the benefits to mother and child, M. Blache cites the following facts bearing on the subject: "At the last census of England (1878) the increase of population was 145 for every 10,000 people. In Sweden and Norway the increase was still greater. In these two countries maternal lactation is very general, and the mortality of infants one year of age is thirteen in 100 in Sweden, and ten in 100 in Norway. For the same year the increase of population was 181 for every 10,000 inhabitants in Sweden, seventy-seven in Italy, 130 in Germany and in France only thirty-six.*

[Translated for the Therapeutic Gazette from the La France Medicale.]

Poisoned by Aniline.*

M. Merchlan communicates an article on the subject. M. Fettr observed that hard drinkers employed in the aniline factory were more often found to be victims, and in place of alcohol the spirit of Minderer would be more suitable.

M. Savard.—It would be interesting to compare the symptoms of poisoning by aniline and by benzine and nitro-benzine. Benzine seems to act on the brain, nitro-benzine on the spinal marrow, as has been exhibited by experiments in frogs.

M. Merchlan.—In cases of poisoning by nitro-benzine, which I have observed, the accidents are different from those I am going to relate. The sick one was in a state of deep coma. Under the application of hot iron, the ingestion of alcohol and counter-stimulants there was recovery.

M. Martin.—The experiments of Telori seems to prove that inhalations of oxygen were successful. Subcutaneous injections of ether would also answer.

M. Ball.—Would enquire why the spirit of Minderer is preferable to alcohol in poisoning by aniline.

M. Fettr.—Because the spirit is a more diffusible stimulant.

M. Ball.—I doubt the reasoning. Experience has proven that in delirium tremens alcohol is the best remedy.

Debate before the Paris Academy of Medicine.

*[Note by Translator.—It is possible that there are other causes why the increase of population may not compare with other nations. A large portion of the population of Paris are well off and very luxurious, addicted to high living and late hours for pleasure. Take the same population in Boston, Mass., the number of children for each family is said to be about two or three, while among the laboring classes the number is double that of the former. This is a much more charitable view than to attribute the difference to infanticide. In Paris it is well known that a large proportion of the lower class are not among the virtuous, and hence there is a falling off among this part of the population. The subject of M. Blache's article was referred to a committee to report on the same.]

[Translated for the Therapeutic Gazette from the El Medico y cirujano Gautemala.]

Bacillus Malaria.*

The Journal d' Hygiene has been the first scientific organ in France to make known the remarkable labors of Prof. Edwin Klebs and Tommasé Cuidete,—labors which have conducted savans to a discovery of the greatest importance, the knowledge of the specific agents of malaria:

1. In all the malarious region de L' Agu Romanus, the "Bacillus malaria" can be produced by artificial propagation in great quantities, and which cannot be found in the salubrious locality of Lombardy.

2. These same Bacilli abound in the air of a malarious regions, especially during a warm afternoon of summer. They are found in abundance in the perspiration of the face and hands.

3. They are found during the height of fever, in the blood of rabbits taken from a malarious region, in the blood of persons residing in marshy places, and in the blood of persons having pernicious fevers.

4. If the blood of healthy dogs be inoculated with the blood of persons having these fever, the dogs soon possess the the same symptoms of Bacilli. We do not hesitate to congratulate the Italian physicians on behalf of the French Society of Hygiene.

[Translated for the Therapeutic Gazette from the L' Union Medicale.]

Leprosy.*

M. Hillairet said before the Academy of Sciences and Savans: "I have seen lately a sick person who has had the leprosy for twelve years, which has been much worse for the past two years. She came from the town of Quinca (Cordilley of the Andes) with her husband and infants. I have used with strychnine, a medicine made known by a missionary, M. Leserteur, called the Hoang-nan—which has given good results in the hands of the missionaries. The first doses I gave were too large, and were not retained. I then gave 0.10 centigrammes alone, morning and night, in pills, and during the fourteen days it has been

taken the tubercles on the face, shoulders, and fore-arms are notably reduced? Is it the result of the medicine or a change of climate? In this case I have taken matter from these tubercles and will inoculate a pig. In Columbia it is said a hog is easily inoculated, and yet its flesh can be eaten with impunity. I will report to the Society the results I shall obtain.

[Translated for the Therapeutic Gazette from the Gazette Medicale de Paris.]

Drainage in Ovariotomy.*

M. Leon Labbé read a paper on drainage after the operation of ovariotomy. He objects to it as partially producing septicemia from being incomplete in the peritineo-vaginal operation, but in the peritoneo-abdominal it is a success. The conclusions are as follows:

1. When there exists (at the same time with an ovarian cyst) an ascites, which it is anticipated will return.

2. When adhesions are found—the tearing away of which necessarily produces a sero-sanguineous discharge.

It is necessary for the drainage of a peritoneo-abdominal operation to have tubes sufficiently large and consistent—about eight millimetres in diameter. They ought to be well saturated in phenic acid solution.

[Translated for the Therapeutic Gazette from the Gazette Medicale.]

Treatment of Epithelioma by M. Vernueil.*

In 1873 Bilroth reported to a society of German surgeons ten cases of extirpation of epithelioma of the tongue, four of which died. One of the sick was treated eighteen months after the operation without a return of the disease, but deglutition was difficult, and the teeth, in the absence of the tongue, became almost horizontal.

M. Schleffer, pupil of Bilroth, reported fifty-four oparations and twenty one deaths. Most of the cases were very bad, and many surgeons would not have operated. In mild cases the success is more certain. The primitive mortality is little, and the reason of the secondary mortality being greater is because the operation is insufficient, and from portions of the diseased glands being left, and particularly the glands. If the person dies after the operation it is because the glands have been left. Kocher, of Berlin, removed the glands whether diseased or not.

[Translated for the Therapeutic Gazette from the Revista Medicina, Madrid, 104.]

Squamous Diseases Treated by Vaseline and Lead.*

M. Kapose gives the following prescription as best suited to these diseases:

℞ Lead plaster, 30 grammes.
Vaseline, 30 grammes.

Flavored according to one's wishes with lavender, bergamot, or Peruvian balsam. This is particularly serviceable in diseases of the scalp. Even excoriated surfaces are treated without injurious effects. It is preferable to Hebra's plaster, as it is inodorous and does not change from the temperature of the body.

[Translated for the Therapeutic Gazette from the El Medico y cirurgano Guatemala.*]

Simuba Cedron.

The general reputation for curing poisoned animals by the seeds of this plant has been known only a few years. It was introduced from Oaxaca by a traveler, and though used empirically also in intermittent fevers, and even when quinine and arsenic failed to cure, it has become a standard remedy. Its well-known uses in poisoned animals have given grounds for further examinations, chemically, and for continued experiments. It is also used in diarrhœa and colic. The almond seeds are so bitter that pills are best suited to administration, being made from the dried extract, 100 grains of the almond producing 30 to 33 grains of the aqueous extract, and a little more than half the quantity of the alcoholic extract.

[Translated for the Therapeutic Gazette from the Petit Moniteur de la Pharmacie, Paris.]

Azotite of Ethyl.*

M. E. Peyrusson has published a remarkble paper on the use of this medicine as a prophylactic in pestilential and contagious diseases, and to purify contaminated localities. Azotite of ethyl in vapor possesses all the physical and chemical properties to attack all morbific products in the atmosphere. Its action is analagous to ozone, but more active in its effect by reason of the great variety of products it has to meet. It is no more unpleasant than ozone in odor, nor irritating in its action upon the tissues, and whilst it is impossible to use the latter practically, the azotite of ethyl can be used night and morning, placing some few grammes in a flagon in an impure room.

[Translated for the Therapeutic Gazette from the Journal de Therapeutique.]

Stigmata of Maize in Gravel.*

M. Castan, Professor in the Faculty of Medicine of Montpeliér: Lately there has been much excitement regarding this supposed new remedy. He himself had long known of its efficacy, having used the infusion in many cases of gravel, and had produced great relief in nephritic colic. He gives four and five cups full of the infusion each day.

As to the mode of relief it is difficult to explain, and he thinks it less a diuretic than a local anodyne.

M. Deunée, of Bordeaux, said likewise that the use of this remedy was not new. He had been using it with others in Bordeaux for ten years. In Mexico it had been used by the natives for a long time in nephritic colic, in vesical catarrh, and generally it was beneficial in all mucous surfaces.

M. Pous, of Nerac, stated the same as to his locality, to which others agreed as to its long and beneficial employment.

[Translated for the Therapeutic Gazette from the Gazette Medicale de Paris.]

Chronic Ulcers.*

M. Mark Sée presented before the Surgical Society of Paris a communication on the treatment of virulent ulcers, and particularly of phagadenic chancres. Everyone knows that these affections are chronic,—

sometimes several months before a cure is effected. The new treatment consists in cutting off with a sharp knife all the diseased flesh on the surface—even down to the sound flesh. He then uses the thermal cautery, extending to all the diseased portions, after which he makes an ointment or paste with hydrate of chloral or any other antiseptic. There is no inflammatory reaction. In a few days the eschar sloughs off, and the ulcer heals regularly, and in two or three weeks the cure is complete.

[Translated for the the Therapeutic Gazette from the L' Union Medicale.]

Influence of Oxygenized Water on Fermentation.*

M. Regnard has related the experiences of M. Paul Best on fermentation under pressure. He has obtained similar results. Oxygen suspends all fermentation in beer, milk, and wine. Wine assumes the taste of Malaga wine, becomes discolored and limpid. It not only prevents fermentation, but if it has commenced it checks it. It suspends the life of algæ. In injecting in the carotid of a dog it produced that of violent convulsions. It appears that the action of oxygen under pressure is identical with that of oxygenized water. It can be used against vegetable and animal parasites, but is decomposed when in contact with substances containing fibrine.

[Translated for the Therapeutic Gazette from the Gazetta Medica Italiana Lombardia.]

Enlargement of Mammæ.*

Prof. Poro reported the following case: A woman 20 years of age, and pregnant the third time, and in her fourth month, is seriously troubled with enlargement of her breasts. In the fourth month her breasts commenced swelling, attended by heat, redness, pain. The right breast is larger than the left, and measures at its base eighty-two centimetres, (thirty-two inches). The treatment was, cold locally followed by compression, and unless success attends this treatment, abortion seems the best course to pursue, in which course Prof. Chiara coincided.

[Translated for the Therapeutic Gazette from the Journal d' Hygiene.]

Infantile Diarrhœa and the "Elixir of Health."*

M. Boujean, of Chambey, sends an article on this subject, first published in 1859. The elixir of health is made up of sugar and ether united with diffusible stimulants as cachon. menthé, bitter orange peel, anise, etc. This preparation tones the bowels without irritation, and calms the nervous system, and at the same time maintains actively the digestive functions. This preparation was extensively used in the great epidemic of intestinal catarrh in 1869 by Lyonese physicians.

[Translated for the Therapeutic Gazette from the Revista Medicina, Madrid, 104.]

Pilocarpin in Prurigo.*

Dr. O. Simon has used, hypodermically, pilocarpine in this affection. At the beginning he used fifteen grains in solution, and likewise a syrup of jaborandi composed as follows:

℞ Leaves of jaborandi, 3 parts.
Water, 15 parts.
Add, white sugar dissolved, 18 parts.

Dose—Two tablespoonfuls.

During its administration the patient was clothed in wool, and perspired freely. The prurigo gradually disappeared and yielded to this treatment, aided by baths.

[Translated for the Therapeutic Gazette from the L' Union Medicale.]

Anti-Scrofulous Potion.*

℞ Iodide potass.,	30	grammmes.
Tr. iodine,	15	"
Tannin,	15	"
Syrup of quinine,	750	"
Gum julep.,	2250	"

M. Sig.—One tablespoonful every four hours to adults, and to children in proportion.

Correspondence.

Podophyllotoxin.

Referring to your very excellent condensation and translation of my paper on a "Pharmacological Study of Podophyllum Peltatum," for the January number of the current volume of the THERAPEUTIC GAZETTE, I would state that since the appearance of said paper I have made further study of this drug and will soon publish the results. I have succeeded in obtaining podophyllotoxin, in a perfectly pure condition from the root, as a snow-white, amorphous mass—a substance of intense activity. I have also obtained the acid in a pure crystalline state (snow-white crystals). This acid is also very active but it does not possess toxic properties to such a degree as the podophyllotoxin. Five milligrammes (1-12 gr.) of picropodophyllin (also podophyllotoxin) caused emesis, purgation and death in a cat. Ten milligrammes (1-6 gr.) of the acid, which I have named picropodophyllinic acid, operates mildly as an emetopurgative on the cat, this action being followed by narcotism and death.

The method I have employed for the preparation of podophyllotoxin and picropodophyllinic acid is expensive, owing to the large consumption chloroform, which in this country commands a high price. In the manufacture on a large scale, however, the chloroform may be recovered to advantage and then the cost of the preparations would be materially reduced.

These principles (especially podophyllotoxin) will undoubtedly supplant the more bulky and bitter preparation known as podophyllin.

You will permit me, in a recognition of your kindness, to forward you specimens of my preparations. I remain with great respect,

V. PODWYSSOTSKI.
Privat-Docent and Assistant at the Pharmacological Institute of the University of Dorpat.

DORPAT, Russia, January 14, 1881.

Rhus Aromatica.

On reading the remarks of Dr. F. T. McClanahan, on Rhus Aromatica and its use in dia-

betes, I resolved to give it a trial if a proper case presented itself in my practice. Accordingly, on April 4, 1880, the case wished for arrived. Case —Geo. B——, æt, 40 years, unmarried; urine loaded with sugar; on applying Trommers' test, specific gravity 1030°; pale and cadaverous looking. Also, in addition to the diabetic condition, was troubled with a constant dribbling of urine, which rendered him most miserable. Gave him fluid ext. rhus aromatica in the following prescription:

℞ Rhus aromatica, ʒ j.
Glycerine, ʒ iij.

M. Sig.—Teaspoonful four times a day.

He began to mend at once, and now, on the 11th of December, is as well as he ever was in his life. He can do a good day's work, whereas he could not work at all when he came under my charge. I am convinced that in rhus aromatica we have one of the remedies that is very efficacious in the diseases for which it is recommended.

DR. E. W. M'CORD.

Rock Rapids, Iowa.

Jamaica Dogwood.

I find that this drug is very much like opium in its effects on the nervous system, except that it does not constipate the bowels or act as a stimulant. It quiets almost immediately, does not leave any sick stomach afterward, and does not interfere with the action of calomel. In obstetric cases it acts the same way—does not interfere with the progress of the labor, but rather helps it by dulling sensibility, like chloroform somewhat. It is almost a cure for sciatica. I tried it in my own family first, and it acted so well that I have used it frequently since in several families, and with uniform success. In a case of piles, very severe, I used it in conjunction with sugar of lead topically, and was surprised at the prompt relief from pain. It is a fine thing in that complaint, as it can be used internally or topically without interfering with other remedies.

REV. H. BRODNAX, M. D.

Plantersville, La.

Prescription Department.

Pneumonia.

For the Prescription Department of this number of the Gazette I send you the inclosed prescription, embodying, as it does, a little of the old and new in practice. Those who are loath to desert the old to embrace the new, may find it to their advantage to so alter their old prescriptions that they may contain enough of the old to insure a certain amount of success, without depending solely upon the new. We should move cautiously in the matter, experimenting only where they may be no loss of valuable time thereby, and thus endangering the life of the patient.

In a recent case of acute lobular pneumonia in a young man of twenty-three or twenty-four years of age, a butcher by occupation; a strong, muscular well-developed German; where the fever was high, cough hard, dry, irritating, almost constant, more persistent during the night, and where the usual expectorants and anodynes were freely given without any apparent benefit, the following combination gave immediate and decided relief, and recovery followed sooner than I had dared to expect by any of the old remedies. The success of the combination was such that I have since been led to employ it in all cases where the nature of the cough is such as to exhaust my patient's strength by prolonged attempts at expectoration, resulting in nothing more than the usual hard, dry, painful cough, whether that be symptomatic of pneumonia, bronchitis, laryngitis, or any other bronchial irritation:

℞ Ext. grindeliæ robustæ fluidi, ʒ jv
Ext. yerbæ santæ fluidi, ʒ vj
Sanguinariæ nitratis, grs. viij
Syr. senegæ, ʒ j
Syr. scillæ, ʒ vij
Syr. pruni virg. q. s. ʒ jv.

M. Sig. Teaspoonful every two or three hours.

CHARLES H. MILLER, M. D.

Peabody, Kansas.

Cough Mixture.

I de ire to show my appreciation of the additional practical feature which this department will furnish in the Gazette, by submitting several prescriptions which experience has demonstrated to be valuable. I do not suppose that it is intended that contributors shall confine themselves to new remedies in their prescriptions.*

Physicians, sometimes from ignorance and sometimes from carelessness, write prescriptions in violation of all the rules of grammar, English as well as Latin, (I do it myself not infrequently) and I read with much interest and hope the definite rules submitted in your last by Prof. Mulheron on the subject, rules by studying which, all, even without the advantages of a classical education, may learn to write a correct prescription. I trust, Messrs. Editors, that you will exercise your prerogative and make all contributed prescriptions conform to these rules.

The following is a valuable combination in coughs, meeting as it does the indication in cough due to peripheral irritation and central irritability, and not attended with expectoration (dry cough):

℞ Acidi bromhydrici ʒ vj
Morphiæ sulphatis grs. iij
Ext. grindeliæ robustæ fluidi
Ext. yerbæ santæ fluidi, āā ʒ j
Syrupi ipecacuanhæ qs. ad. ʒ jv.

M. Sig. A teaspoonful every 3 hours.

When there is profuse expectoration, the following:

℞ Ammonii muriatis ʒ ij
Aquæ qs. ad. solve,
Tr. opii camphoratæ,
Ext. yerbæ santæ fluidi āā ʒ ss
Syrupi senegæ,
Ext. glycyrrhizæ fluidi āā ʒ j.
Glycerinæ qs. ad. ʒ vj.

M. Sig. A tablespoonful every three hours.

R.

Chicago, Illinois.

[*We desire to say that such is not the intention of this department. While we shall be pleased to receive formulæ containing the newer drugs we do not contemplate that such shall be submitted to the exclusion of those comprising the older remedies. Ed. Therap. Gaz.]

The Therapeutic Gazette

WM. BRODIE, M. D.
CARL JUNGK, Ph. D. } Editors.

DETROIT, MICH., APRIL 15, 1881.

GEO. S. DAVIS, Medical Publisher, Box 641.

SUBSCRIPTION PRICE, - - ONE DOLLAR.

PRICE OF BACK NUMBERS:

Single Copies, each ..... $ .10

(Vol. II, No. 1, is now out of print.)

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Cholagogues (Concluded.)

WE conclude in this number the comprehensive resumé from the Practitioner, of the experiments and deductions by Dr. Rutherford in regard to the effect of a variety of drugs on the hepatic secretion. Our readers cannot but have been deeply interested in this report although it may have disturbed, as it doubtless has, many preconceived opinions on the subject of cholagogues. It is true the experiments were conducted on dogs, and dogs are not human, but it remains for the caviler to demonstrate that the results achieved are different from those which would have occurred had men instead of dogs been experimented on.

Calabar Bean excites the liver, but not powerfully, unless given in very large doses,—four times the maximum dose for a man.

Atropia Sulphate.—It is known that atropia causes purgation and diuresis in dogs. On the other hand, it paralyses the chorda tympani and the secretory nerves of the sweat and milk glands, and thereby arrests their secretions. It therefore seemed desirale to determine the influence of atropia on the liver. Dr. Rutherford found that it does not paralyse the hepatic cells, nor does it excite them. Whether or not it possesses the power of paralyzing the hepatic secretory nerves is doubtful; but, seeing that it antagonises the effect of physostigma on the liver, and remembering the action of these substances on the nerves of the heart and salivary glands, the suspicion is entertainable that physostigma stimulates the hepatic cells through a nervous apparatus that is affected in an opposite sense—possibly paralysed—by atropia; while the hepatic cells, and perhaps some nervous mechanism like the motor ganglia of the heart in close relation to them, are unaffected by atropia. Atropia does not antagonize the effect of phytolaccin or of ammonium benzoate. It was not tried in other cases.

Morphia.—As morphia has the well-known power of arresting diarrhœa and of producing constipation, it was desirable to know whether this is to be ascribed to its effect on the intestine alone, or also to a power of diminishing the secretion of bile. Three grains of morphia acetate injected into the duodenum did not affect the biliary secretion, and did not apparently interfere with the stimulating effects of twenty grains of sodium salicylate given shortly afterwards.

Hyoscyamus.—As an extract of hyoscyamus is often administered with cholagogue substances, it is important to know whether or not it diminishes the secretion of bile. The dose of this substance for a man is from five to ten grains. Eight grains of extract of hyoscyamus triturated with water were twice injected into the duodenum; sixteen grains being given in all. There was no fall in secretion, but on the contrary, a trifling rise after each dose. It did not appear to interfere with the effect of sodium salicylate afterwards given.

Alcohol.—It is a matter of common opinion that alcoholic drinks affect the action of the liver; but, whether their hepatic effects may be ascribed to the alcohol, ethers, or other substances they contain, no one has hitherto sought to determine. Thirteen cc. of absolute alcohol in one case, and thirty cc. in another, both diluted and introduced into the alimentary canal, did not produce any apparent effect on the biliary secretion. These experiments, however, furnish no evidence of what might be the effects of the prolonged action of alcohol on the liver; and, in consideration of the great labour and length of his research, Dr. R. could not undertake experiments designed to show the effects of various sorts of alcoholic drinks, or of the substances other than alcohol which they contain. Such research could scarcely be of great practical importance, for we already know that certain alcoholic drinks—such as ale, stout, etc.,—tend to produce "biliousness"; and, by experiments on the human subject, it has been ascertained that the condition, thus induced, may be cured by giving iridin or euonymin, substances which powerfully stimulate the liver. As far as they go, however, Dr. R's. experiments show that pure alcohol has, at all events, no immediate action on the liver of the dog.

Jaborandi is a feeble hepatic stimulant.

Tannic acid does not affect the secretion of bile.

Resina menispermi is prepared from the root of the yellow parilla (Menispermum canadense), in the same mannner as iridin. It is said to be alterative, tonic, laxative, diuretic, stimulant, and resolvent, and to be useful in hepatic torpor, indigestion, etc. The medium dose of menispermin is two grains. It was found to be in the dog a slight intestinal, but not a hepatic stimulant.

Acetate of Lead.—The well-known astringent effect of lead acetate in cases of diarrhœa rendered it desirable to know whether or not it has the power of diminishing the secretion of bile. Röhrig, experimented with acetate of lead, and found that 0.6 gramme (9.2 grains), dissolved in four ounces of warm water, and injected into the small intestine of a dog, dimished the secretion of bile. The erroneous nature of some of Röhrig's results, due to his imperfect mode of experiment, rendered necessary a re-investigation of the effects of lead acetate. Dr. R. did not find ten or even thirty grains of lead acetate to produce the depressant effect which Röhrig had led us to anticipate. Fifty grains,

however, had a distinctly depressant effect. But although it caused the liver to secrete very slowly, its effect was completely overcome by twenty grains of sodium salicylate, which produced a very rapid secretion of bile at so late a period as the ninth hour of the experiment. The obstinate constipation observed in cases of lead-poisoning may, to some extent, be owing to the depressant effect of lead on the liver; but it is probably chiefly owing to a depressant action on the intestinal glands, for in view of the astringent effect of a dose of from one to four grains in diarrhœa, it seems likely, from the experiments, that it affects the intestinal canal more than the liver. It is a remarkable fact, that of all the substances employed in this research, lead acetate is the only one which depresses the action of the liver without producing purgation. It seems to be a direct hepatic depressant. As previously explained, every purely intestinal purgative agent depresses hepatic action, in a manner which is probably, however, purely indirect.

Effect of Water and Bile.—The injection of 100 cc. (1543 grains) of water into the duodenum gives rise to only a very trifling increase of bile-secretion. The injection of three cc. (46.2 grains) of bile into the duodenum does not affect bile secretion. The injection of six cc. (92.4 grains), however, increases the secretion slightly. In consequence of the negative effect of one cc. or two cc. bile, Dr. R. mixed such a quantity with all resinous matters previous to their introduction into the duodenum, with a view to promote their absorption; for he found that without the bile larger doses were required. The practical inference is that in such cases of jaundice where no bile enters the intestine, doses of such resinous matters as iridin, euonymin, podophyllin, require to be larger than in the normal condition.

General Reference to Results.—It is evident from the foregoing that the whole question of the action of drugs on the liver is placed on a new footing. It has been shown—1. That there are substances which depress the secretion of bile. To this group belong purely intestinal stimulants, which cause a copious secretion from the intestinal glands, *e. g.*, sulphate of magnesia, sulphate of manganese, castor oil, gamboge, calomel, ammonium chloride, etc., and acetate of lead, which seems to exert a directly depressant influence on the liver.

2. That there are substances which stimulate the liver, and either do not stimulate the intestinal glands at all, or only to a trifling extent. To this group belong ipecacuan, sodium benzoate, ammonium benzoate, sodium salicylate, ammonium phosphate, and dilute nitrohydrochloric acid.

3. That there are many substances which excite both the liver and the intestinal glands. To this group belong iridin, euonymin, podophyllin, phytolaccin, baptisin, hydrastin, juglandin, leptandrin, sanguinarin, colchicum, rhubarb, aloes, colocynth, jalap, sodium phosphate, sodium sulphate, potassium sulphate, Rochelle salt, and corrosive sublimate. The relative effects which they produce on the liver and intestine, and their influence on other parts of the organism, vary much with the different drugs, so that the physician has a long list from which to select substances suitable for affecting the liver in those who are simply bilious, or who also suffer from gouty, rheumatic, dysenteric, or other conditions. It is to be borne in mind that nearly all the experiments were confined to the dog, and to the practitioners of medicine is left the task of testing the actions of many of the above substances on man.

Mode of Action of Hepatic Stimulants.—Although Dr. R. has definitely proved that a large number of substances stimulate the liver to secrete more bile, he does not profess to have absolutely shown in what manner they do this. It may be asked:

1. Do they excite the mucous membrane of the duodenum or other part of the small intestine, and thereby induce reflex excitement of the liver? One would be readily disposed to entertain this idea from the fact that stimulation of the oral mucous membrane so readily induces the secretion of the salivary glands; yet we are obliged to reject the idea that this likewise holds true of the liver, because such substancees as gamboge and magnesium sulphate powerfully irritate the intestinal mucous membrane, while they do not in the least increase the secretion of bile. On the other hand, such substances as ipecacuan, sodium benzoate and ammonium benzoate powerfully excite the liver without producing any notable excitement of the intestine.

2. Do these substances stimulate the hepatic cells by merely increasing the stream of blood through the liver? Whatever be the state of the hepatic vessels during increase of the biliary secretion, it is quite certain that increased secretion of bile does not necessarily follow dilatation of the intestinal capillaries; the effect of which, if it be not carried to excess, may with reason be supposed to increase the stream of blood through the portal vein, and thence through the liver; for example, castor-oil greatly dilates the intestinal capillaries, yet the bile secretion does not rise in the least.

Dr. R. therefore believes that the effect of hepatic stimulants is to be assigned to a direct action of their molecules upon the hepatic cells or their nerves. The effect of physostigma and atropia rather points to an action on the latter—in their instance, at all events—as has been already indicated. But he does not think it advisable at present to pursue this difficult subject, which, as far as we can see, is of little importance compared with knowing what does not stimulate the liver.

It is particularly to be observed that all Dr. R's. experiments concern the influence of substances on the bile-secreting mechanism. The nature of our method has forbidden any observations on the action of drugs on the bile-expelling mechanism. Seeing that the acid chyme, by irritating the duodenal mucous membrane, effects a reflex expulsion of bile, it may be that many substances which stimulate the duodenum have a similar reflex. Yet we cannot but think that to bring about an expulsion of bile by mucous contraction of the gall-bladder and bile-ducts is, in all probability, a small thing when compared with increasing the secretion of bile. One might expect that such powerful intestinal irritants as magnesium sulphate and gamboge would he likely to bring about a reflex expulsion of bile; yet no one has attributed any cholagogue power to these. But, without attempting to reason out a question that can only be determined by

experiment, the investigation of the action of drugs on the bile-expelling mechanism is left to those who care to enter upon such an inquiry. Dr. R. is satisfied to have shown that every substance supposed to be a cholagogue has, with the exception of calomel and sulphate of manganese, the power of exciting the bile-secreting mechanism; and as his estimate of their powers, from an observation of the bile-secretion only, so closely agrees with observations on the human subject, where actions on the bile-secreting and on the bile-expelling mechanisms cannot be distinguished from one another, he cannot but infer that surely their actions on the human subject must be chiefly on the bile secreting mechanism.

The term cholagogue is of necessity a vague one, and is applicable to any substance than increases the biliary flow, whether by augmenting bile-secretion or by exciting contraction in the walls of the bile-passages. Dr. R. has, therefore, applied the more definite term hepatic stimulant to those substances which he proved to increase the secretion of bile.

Our Exchanges (Continued.)

OHIO Medical Recorder. Editors Drs. J. W. Hamilton and J. F. Baldwin, of Columbus, and John H. Lowman, of Cleveland. Monthly, The Recorder is a live journal, its "original communications" department being well sustained and its excerpts evincing an intelligent appreciation of the wants of the general practitioner. It has also ability in its editorial corps, as occasional scintillations attest. It would please us were it to let its light shine more continuously (less intermittently) in this department. The current is too often interrupted, as it were.

Obstetric Gazette. This is another "Ohio idea." Its editor is Dr. E. B. Stevens, a veteran in the cause of medical journalism, and one who has fairly won his spurs through long and honorable service. The Gazette is now midway in its third volume. The previous experience of its editor, guarded it against the dangers of dentition and early infancy and now though but of few years, it has the old head on young shoulders. It is a monthly, and being devoted exclusively to obstetrics and puerperal diseases, it fills a hiatus which existed prior to its founding. It is such a journal as may be safely commended. Address Dr. E. B. Stevens, Lebanon, Ohio.

Philadelphia Medical Times. Edited by Dr. Horatio G. Wood and published by J. B. Lippincott & Co., Philadelphia,—a union of editorial and business ability which should ensure the highest success. The Times is without doubt one of the ablest medical journals of this country, but it has drawbacks which prevent it from being the power which it should be. These exist principally in its price which is an obstacle to a large subscription list. Four dollars a year for 64 pp. a month is apt to be thought rather expensive for the masses. A feature of the journal is a characteristic letter in each number from the pen of J. Milner Fothergill, of London.

Physician and Surgeon. This journal is published monthly at Ann Arbor, Michigan, and is edited by a corps of seven, of when Dr. Victor C. Vaughan is chief. It has entered its third volume, and has received satisfactory recognition of its efforts to supply such a journal as the profession desires. It furnishes 48 pp. each issue and its subscription price is $2.00.

Pacific Medical and Surgical Journal. Edited by Henry and Henry Gibbons, *père et fils*, of San Francisco, Cal. There are points in regard to the views on which we have had occasion to differ from our esteemed contemporary of the occident, but we have never disputed the fact that it is a first class journal, and fearless in its utterances. The P. M. and S. Journal is jealous among its contemporaries of the dignity of regular medicine, and displays unusual antipathy to anything "off color"—there are indeed those who regard it as some what Quixotic on this point. We would that it lent its efforts more freely to the development of the medicinal virtues of the flora for which its native state is so famous.

Southern Medical Record. Monthly, $2.00 a year. *Quicquid Præcipies Esto Brevis.* Edited by Drs. T. S. Powell, W. T. Goldsmith and R. C. Wood, Atlanta, Georgia. Their motto is a good one and the practical nature of the journal recommends it. It conducts, as a special feature, a department devoted to scientific items, not necessarily medical, in which we are always much interested. We know there is editorial ability in its trio of editors, (Dr. Powell gave evidence of it in his address as president of the Medical Editors' Association) and it would please us to see more attention paid to its editorial department. One editor always likes to read his contemporary's views on passing events, and so do the general run of readers.

As we are not likely to meet a St. Louisian on his native heath for some time, we make bold to publish the fact that it has now been definitely determined (by the U. S. census) that St. Louis is not so large a city as Chicago. But it has more medical journals. Whether or not the latter fact is one on which it should be congratulated this deponent saith not. The question is one which, like some pictures, changes its appearance with the nature, angle and amount of the light which it reflects on the eye of the beholder. Among the journals are, however, some good ones. Those remaining to be noticed are, the Medical and Surgical Journal and the Courier of Medicine.

The St. Louis Medical and Surgical Journal besides being a large journal and a good journal is a journal which displays an unusual amount of enterprise. It devotes considerable space to the publication of society proceedings, and contains more information on the subject of throat diseases and catarrhal affections of the air passages than any other American journal, its editor, Dr. Thos. F. Rumbold being a specialist and author on affections of this nature. The subscription price is $4.00 per annum, for which it gives 128 pp. each month.

St. Louis Courier of Medicine, published monthly by the Medical Journal Association of the Mississippi valley, and edited by appointees of the association, Drs. John Bryson, G. A. Moses, Isaac N. Love, E. M. Nelson, and C. A. Tood. Editors are like poets, *nascitur non fit*, and as a rule the selection of a number of men by an association for journalistic work, results in failure. The two elements of uncertainty of success from such selec-

tion lie in the danger of internal dissension among men thus arbitrarily thrown into such relations one toward another, and in the fact that some or all of those chosen are *non nascitur*. We have seen the experiment tried but have never seen it succeed. There must be an antocrat in the sanctum—a one man power—and the necessity is sure to become intolerable after a time. There have been changes in the editorial corps of the Courier and there will be changes, inevitably, and eventually the journal will become the property of one man. Thus far, however, the journal itself has presented no evidence of suffering from the evil indicated, and as nothing is impossible, it may steer safely between Scilla and Charybdis. It is now in the latter half of the second year of its existence and is, as it has been from the beginning, a first class periodical. It certainly deserves success. Subscription price $3.00 a year.

Southern Practitioner, edited by Drs. G. S. Blackie, D. J. Roberts, and Duncan Eve, and published at Nashville, Tennessee. The number of this journal before us is the third of volume three. The Practitioner is a monthly and is a furnished for one dollar a volume. It is spicy and often pungent. We regret its stand on the question of State regulation of medicine. It believes in having all practice who may want to. This is what it calls "free medicine," between which and "free religion" it institutes comparisons. Ye reason logically, brethren, but from wrong data.

The Southern Clinic. Dr. C. A. Bryce, Editor and proprietor, Richmond, Virginia. This journal has entered its fourth year, and is vigorous and full of promise. It has waged a long war against what it has regarded as an abuse in connection with the publication of the proceedings of the Virginia State Medical Society, but although the status of affairs has not yet been altered it seems to have faith in the final triumph of its cause, and keeps hammering away. We have no interest in the quarrel and are only entertained spectators. May right triumph. It usually does and success is very generally the criterion of justice.

Scientific American, weekly, edited and published by Munn & Co., 37 Park Row, New York. To add aught to the universal praise which this old, tried-and-found-good journal has received would be like piling Pelion on Ossa—a useless task, and therefore we shall not attempt it. The Scientific American is *ne plus ultra* in the field which it cultivates.

Obituary.

DR. RICHARD O. COWLING. A telegraphic despatch to the Detroit Free Press of the 3rd inst. contained the intelligence of the sudden death, at his home in Louisville, Kentucky, of "Richard O. Cowling, one of the brightest physicians in the State." The news, so unexpected, caused us a pang, and none who have ever made the acquaintance of our genial, brilliant, whole-souled friend but will share the feeling when apprized of his death.

Dr. Cowling was born near Georgetown, S. Carolina, April 9th, 1839, and thus died within one week of the 42nd anniversary of his birthday. He took his degree of B. A. at Hartford in 1861, and of M. A. in 1865, and graduated in medicine from Jefferson in 1867. After graduation he settled in Louisville. He spent the year 1871 abroad, putting in his time at London, Vienna and Paris. In September 1867 he was married to Mary, daughter of Col. Samuel B. Churchill.

For a person of his years Dr. Cowling had risen to eminence in the profession, while his active and keenly pointed pen won for him a much wider reputation than men of his age with even equal opportunities usually achieve. He was appointed Professor of surgical pathology in the University of Louisville in 1873, which chair he also occupied at the time of his death. He was the author of numerous papers on medical topics, and several orations, but his fame was chiefly won in connection with the Louisville Medical News, which journal he founded in 1876. Under his editorial guidance this journal has achieved a standing in the profession far in advance of its years.

For a combination of all those qualities of head and heart which make men respected, and endear them to their friends and acquaintances Dr. Cowling was pre-eminent. Few whose fortune it was to know him but will feel his loss as that of a dear personal friend, while the profession of medicine loses in his death one who had already done it good service, and in whom it had grounds for much hope.

Our heart goes out in sympathy to his afflicted family.

Gubler's Therapeutics.

NOTHING is more obnoxious than empiricism to therapeutic progress. (This truism is not uttered oracularly.) Few will be found to controvert the saying, and yet the amount of empiricism which passes under the guise of science would astonish even those who practice it were it all laid bare. It is doubtful whether even the most pretentious physician submits each case consulting him to a process of ratiocination—tracing as well as he may the relations between existing effects and existing and antecedent causes, and reasoning as to the object contemplated in the drug prescribed. And yet all should do this, and many would, perhaps, but for lack of ability to do so. As an aid to such as are not thus able, and as a reminder to those who knowing are neglectful, the reading of such a book as that recently issued by Dr. D. G. Brinton, of Philadelphia, "Gubler's Therapeutics" (noticed elsewhere) is invaluable. Therapeutics as a branch of medicine has lately made considerable progress, but we have a faith which inspires the hope, that the advances of the past five years will shortly prove but the gentle dropping before the great shower. German mysticism is fact losing its hold on medicine and the reins are falling into the hands of the practical men of the times, who will build upon the solid foundation which the Germans have laid in the matter of the demonstrable branches of medicine, a system of therapeutics excelling all previous effort. Gubler's book is a move in this direction.

Book Reviews and Notices.

The Principles and Methods of Therapeutics.

By Adolph Gubler, M. D., Professor of Therapeutics in the Faculty of Medicine, Paris; Member of the Academy of Medicine; Physician to Beaujon Hospital, etc. Translated from the French.
Philadelphia: D. G. Brinton, 115 S. 7th street. 1881.
Detroit: Geo. S. Davis.

In our number for February we gave notice of the appearance of this work about the 1st of March. The publisher has come promptly to time, and has given to the American medical profession a work of great practical value. The author was not only a pupil of Trousseau, but also an able clinical teacher and a distinguished botanist and chemist. The list of his works is very extensive, and many of them have taken rank in science as definite discoveries. He has in a memoir combatted with striking arguments the doctrine of indefinite transformation (evolution) as put forward by Lamark and Darwin, and shows himself a partisan of the relative fixity of the various species of animal life. He believes in interrogating man himself to obtain the information he alone is capable of giving, and attempts by patient and laborious observation to distinguish among the phenomena common to man with all living beings, those peculiarities of organization and function proper to him alone.

The author is claimed to have developed the only method of therapeutics which reconciles the empirical and clinical art of medicine with the demands of exact and logical science. The subject is presented in the form of lectures as delivered to his class, and is discussed under the heads of General Therapeutics and Avenues for the Introduction of Medicaments. Of these nearly three chapters or lectures are devoted to the subject of Hypodermic Injections, in which much valuable information and advice is given. Although favorable to this form of medication, he acknowledges "that in a majority of cases neither patient nor attendants can be intrusted with the performance of the operation without assuming uudue risk of accidents, and among its inconveniences its application generally requires the physician's intervention." Other chapters are on, "How the System Eliminates Medicaments,"—"How Remedial Agents Accumulate," and "How to Prevent Accumulation," "Force of Habit,"—"Intolerance," and "Antagonisms with Conditions Affecting Medical Action."

The author does not concern himself with the application and effects of the different articles of the materia medica, with the physiological action of drugs or the treatment of individual diseases, but he aims to present, 1st, the methods which can be most effectually employed in the administration of remedial agents, and next the principles or precepts by which their remedial action is exerted on the human economy. In other words he makes therapeutics a study, founded on clinical, physiological and chemical observation.

Every reading and progressive physician and surgeon should read the book and judge personally of its merits, and we will promise them in so doing a treat seldom found in medical literature.

A Practical Treatise on Diseases of the Skin.

By Louis A. Duhring, M. D., Prof. of Diseases of the Skin in the Hospital of the University of Pennsylvania; Dermatologist to the Philadelphia Hospital; Consulting Physician to the Dispensary for Skin Diseases, Philadelphia; author of "Atlas for Skin Diseases," etc. Second edition revised and enlarged.
Philadelphia: J. B. Lippincott & Co. Detroit: Thorndike Nourse.

This is an American book on Diseases of the Skin, and, although Wilson has been in a general manner our authority, we yet hail with pleasure a work based upon native examination. All diseases are governed and modified by climate, and why should the skin be an exception? So far as the exanthemata is concerned they present the same, or nearly the same characteristics, all over the world. But there are those of chronic and specific character whose condition is aggravated by contact with sea air and salt water, upon whose removal to the shores of the great lakes of our country are so much modified as to lose, in a great measure, their identity. Hence it is rare to meet cases of special character outside of the more common diseases of the skin.

The author refers incidentally to this fact, and states that the same disease naturally differs in one or another part of the world, and that the diseases of the skin met with in the United States resemble more closely those of Great Britain than those either of France or Germany.

The author does not enter into an exhaustive disquisition upon diseases of the skin, but has confined himself to giving a practical insight so as to afford a clear and distinct view of the many pathological changes the skin may undergo. His definitions are from a clinical standpoint; his descriptions are terse and to the point, while his treatment is evidently based upon good common sense, as derived from clinical experience and observation.

The illustrations are from drawings by Dr. Van Harlingen, than whom no one is better qualified to prepare them. Thus step by step American authors are becoming standard, and the American medical profession may soon boast of its own literature.

The work is elegantly presented to the profession by the publishers, and we cordially commend it to students and practitioners as one of the best and latest works on dermatology.

A Manual of Diseases of the Throat and Nose.

By Francke Huntington Bosworth, A. M., M. D., Lecturer on Diseases of the Throat in the Bellevue Hospital Medical College, and Physician in charge of the Clinic for Diseases of the Throat in the Out-door Department of Bellevue Hospital, etc., etc. pp. 427, illustrations 175.
New York: Wm. Wood & Co.

In his preface the author tells us that he has embodied in this work the results of nearly ten years' experience in dealing with throat disease, and that during these ten years he has recorded over eight thousand cases. It is evident, therefore, that Dr. Bosworth is no novice in this department of medicine, and this is borne out by the character of the work before us.

The first chapter is devoted to a description of the Laryngoscope, instruction in Laryngoscopy

and Rhinoscopy, and a description of the various instruments which may be employed in examining the upper air passages. In the second chapter the Anatomy and Physiology of Mucous Membranes are briefly discussed, and a concise definition of inflammation of mucous membranes is added. Chapter three is devoted to a consideration of the methods of treating mucous membranes and the various instruments employed for this purpose. Taking cold and the best means for its prevention are discussed under the head of chapter four.

His remarks on the danger of keeping the body too warm and of wearing too many wraps about the neck are worthy careful perusal.

His statement that "seal-skin sacques have caused more deaths than has small-pox in New York in the past five years," will not surprise any careful observer of the times, although it is a forcible manner in which he expresses his views on the subject.

The remaining twenty chapters are devoted mainly to considering the various forms of inflammation which attack the pharynx, nasal cavities, larynx and trachea, and to the manifestation of constitutional diseases which affect these parts, although the anatomy and physiology receive appropriate attention.

While Dr. Bosworth's book contains some statements not wholly in accordance with our views, yet we can heartily commend it as a good work upon important subjects. C. J. L.

A Treatise on the Materia Medica and Therapeutics of the Skin.

By Henry G. Piffard, A. M., M. D., Professor of Dermatology, Medical Department of the University of the City of New York; Surgeon to Charity Hospital, etc.
New York: Wm. Wood & Co. 1881. Detroit: John Willyoung.

This is number two of the February number of Wood's Library of Standard Medical Authors, and the third year of its publication. The present volume is the outgrowth of the author's own requirements, based on the knowledge that the experience of the past should be the foundation on which to begin the study of the present. The work is divided into two parts; 1st, Materia Medica, and 2d, Therapeutics.

Part first is devoted to so much of the materia medica as has a reputation in the curing of the many affections or diseases to which the skin is liable. The mode and manner of their application to the disease to which they are practically applicable is explained in part second. In this latter part the author has deemed it expedient to give a brief synopsis of the diseases themselves, in order to aid in their recognition, and to display more clearly the rationale of the treatment recommended.

Each part has an elaborate introduction in which the author fully explains himself, and also places the subjects of the parts so fully and plainly before his readers that they cannot fail to comprehend that which follows.

The plan of the work is something new, and exceedingly practical, and independently of the fact of the work's being of American origin, it cannot fail to receive the approval of the American medical profession. The arrangement is a valuable one for the student of dermatology, and it seems to us almost a pity that he cannot obtain the book without buying the whole set.

In the preparation of the book 198 authorities and ten manuscript communications from members of the New York Dermatological Society have been studied. Twenty pages of formulæ are given, and the whole followed by a full and complete index of remedial agents.

It seems to us every young man should become a subscriber to this Library; for in no other manner can he become the recipient of so much valuable and practical information at so little cost. We again cordially commend Wood's Library to the medical profession.

The Hygiene and Treatment of Catarrh.

Part I. Hygiene and Sanative Measures. Part II. Therapeutic Measures; with forty illustrations. By Thomas F. Rumbold, M. D.
St. Louis, Mo.: Geo. O. Rumbold & Co. 1881.

In the October number of the Gazette for 1880 we expressed ourselves briefly on the merits of Part I.

The second part is devoted to the Mechanical and Medical Treatment of Catarrh—(and here we protest against the use of the term *catarrh* by educated medical writers unless accompanied by its qualifying adjective; it partakes too much of the language of quackery, or of popular expression for scientific purposes.) The author's experience in the management and treatment of diseases of the air passages entitles him to speak with authority. In the physiology and pathology of the different parts that enter into and form the air passages, we concede the author makes good points, and is probably correct. In treatment there can honestly be a difference of opinion. We notice all specialists give great prominence to the organ or organs they treat, and seem to forget the relation these organs bear to others directly or indirectly. Diseases of the throat and air passages so often depend on, and are caused by diseased conditions of the lungs and stomach that to treat the effect and not remove the cause first would indeed be poor therapeutics.

The author evidently holds the opinion that diseases of the air passages and throat are local in their cause and origin, as the treatment adopted is chiefly by mechanical means, the spray and the douche being his chief instrumentalities. There is, however, much good in the book. The latter part being written in a more professional tone than the first, gives the volume more character than would be observed in reading the first part.

The mechanical execution of the volume is particularly unattractive. Two qualities and shades of paper are found in the last half of the work, a good deal of the typography is blurred, and the registering of the pages has been carelessly performed. For this the publisher is responsible. The appearance of a book has much to do with its success.

"The Illustrated Scientific News."

A Record of the Sciences and their Application in the Arts and Industries" is the title of a new monthly published by Munn & Co., 37 Park Row, New York, at $1.50 per annum.

This is an excellent paper for young people who

have the least scintillation of a mechanical genius. It is also so for the average adult who has not the time or inclination for studies of a deeper scientific character. To both these classes we commend it, and wish the publisher cordial support. Nos. 1 and 2 not received.

HOW TO USE THE FORCEPS.

With an introductory account of the Female Pelvis and the Mechanism of Delivery. By Henry G. Landis, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in Starling Medical College. Illustrated.
New York: E. B. Treat, publisher. 757 Broadway. For sale by Medical Booksellers.

This is an interesting and useful little book for the young practitioner. In the first part the author discusses the Mechanism of Labor, and in this he differs somewhat with those who have been deemed authorities heretofore.

The second part is devoted to the application of the forceps. Were we to be hypercritical we would differ very much from the author. We received our instruction from such a master in obstetrics as Dr. H. H. Childs, formerly Professor of Obstetrics in the same institution as the author, and professor C. R. Gillman, College Physicians and Surgeon New York City, and, perhaps fortunately, have never experienced any difficulty in applying the forceps, whether in the inferior, middle, or superior strait of the pelvis. Dr. Landis gives preference to the "Davis Forceps." The variety of these instruments are almost endless. We have used the Baudelocque Forceps with the most satisfactory results and believe them superior to all others. We must also differ from the author on the question of lateral motion after the forceps are applied. We have often found it necessary and of vital importance not only to the child, but the mother, and with no danger to either. We have also found it necessary to use traction, and therein lies, in our opinion the great value of the Baudelocque Forceps. This instrument when applied to the head of the child holds it, while the many instruments of more delicate construction spring with the force applied, and are apt to slip off to the destruction of the parts of the mother, and even the head of the child.

As to the time when forceps should be applied many factors are involved. The principle ones are, 1st the mother, 2nd, the child. The author expresses these very methodically, practically speaking. As a general rule forceps should be used much earlier than they commonly are; our space does not permit us to give our reasons for this belief.

To sum the whole, the successful accouchéur in the use of the forceps is one, who so closely imitates the natural labor as to preserve the life of the mother and the child with the least physical deformity to either. The teaching of the book before leads to this result, and in so far as it does this we cordially commend it to all students and graduates of medicine.

DRUGS THAT ENSLAVE.

The Opium, Morphine, Chloral and Hashisch Habits. By H. H. Kane, M. D., New York City. Price, $1.50.
"They are drunken, but not with wine; they stagger, but not with strong drink."—Isaiah.

"What warre so cruelle, and what seige so sore
As to bring the sowle into captivitie
As that fierce appetite doth fain supplie."
Philadelphia: Presley Blakiston. 1881. Detroit: Thorndike Noure.

In the March number of the THERAPEUTIC GAZETTE for 1880, in a notice of a work by our author upon "The Hypodermic Injection of Morphia," we quoted the findings of the author, to which exceptions were taken. In that notice we opposed the use of morphia hypodermically, especially when not personally applied by the physician with counsel. We are happy to see our author conclude what he says on the opium-habit in the book before us as follows: "The physician should never entrust a syringe or the solution to patients or their friends"—"He should use it himself." This conclusion is the most valuable advice given, and should be heeded by all.

Upon the results of the use of opium, chloral hydrate and hashisch, as a habit, the author gives a comprehensive, and at the same time a concise statement, and the facts as presented can be considered reliable, as the information has been derived from the medical profession in answer to questions propounded through the medium of the medical journals, and from the personal study and observation of the author himself. It is a valuable book and should be in every medical and public library. The public should read it and the physician should read it, and to each we cordially commend it.

THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

Instituted 1847. Vol. XXXI. Published for the Association.
Philadelphia: Collins, printer, 705, Jayne St.

This, with the exception of Vol. XXVII, which included a volume of a prize essay, is the largest volume of the Transactions yet issued. It was, of course, naturally expected that the attractions of New York City would command a large attendance at the meeting, and more papers than usual. It was also expected that the papers presented would be of higher merit. In the latter respect we are, however, disappointed, as a comparison of the volume before us with older volumes shows no such superiority. Some of the addresses of the chairmen of the sections were fair, and others only medium. The new section on ophthalmology, otology, and laryngology was a failure, as the minutes will show. The great interest in the Association centered on two questions, viz., The metric system and the change in the manner of publishing the proceedings. The former received a *coup de pied*, but rallied enough to live till the next meeting in Richmond, when we trust it will be transported to its native home, to live in this country only in memory. The latter question was laid over for consideration at this year's meeting, at which time we trust the proposed change will be well considered before adoption. We hardly think we are yet properly prepared to imitate the British Medical Association in this respect, that is, for the Association to publish a periodical.

As a whole the volume is a creditable one, and the publishing committee have done their part well.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF WISCONSIN.

Appleton: J. T. Reeve, M. D., Secretary.

The Thirty-fourth Annual Session of this Society was held in Milwaukee, May 4th, 1880, and judging from the Transactions, it was one of much interest. Thirty-four years of State Medical Society experience has not been wasted by our brethren of the Badger State, and when they meet they do so for medical improvement, at the same time they are not insensible to other good things that may incidentally fall in their way.

We have now received a copy of nearly all the proceedings of the different state medical societies, and the general average of the papers read have been somewhat above the ordinary, showing that the medical profession is progressive, and also that this progression is not confined to the Atlantic States, but pervades our whole Union.

When we opened the Transactions of the State Medical Society of Wisconsin, we at once concluded that Putnam Bros., of New York, had published them,—such elegant paper, such beautiful typography, and such admirable engravings could only come from such an establishment. But to our surprise the Transactions were of home production, and the "Sentinel," office had printed them. Without being invidious, the transactions of no other state medical society are presented in such elegant shape, paper and typographical appearance as those of Wisconsin. Our wishes are extended for the Society's continued prosperity, as it is well deserved.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

For the year 1880. Syracuse, N. Y. 1880. Wm. Manlius Smith, Secretary.

We have before us the proceedings of the 74th annual meeting of the old and renowned medical society whose meetings always mean business, and whose papers are from its best men. It is refreshing to read these transactions, for they always contain a fund of practical information. Since the Society has been its own publisher it has issued its transactions in a style which gives them a respectable appearance on the shelves of any medical library. Our best wishes are extended for its continued prosperity.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

At its Thirteenth Annual Session held at Altoona, May, 1880. Vol. XIII, Part I. Published by the Society.
Philadelphia: Collins, Printer.

The proceedings of this society like those of New York, are made up of the writings of its best men, and contain much matter of practical interest. Our space does not permit us to give a resumé of them, but suffice it to say that were they bound in the unexceptionable style of those of New York they would not suffer in a comparison with those of the Empire State.

Dr. Atkinson, the permanent secretary, will please accept our thanks for the copy sent.

TRANSACTIONS OF THE MINNESOTA STATE MEDICAL SOCIETY.

St. Paul: C. Boardman, M. D., Secretary.

These are the proceedings of the twelfth annual meeting, and for so young a State society they present a most creditable appearance, not only in the character of the contents, but in the tasty form in which they are prepared.

The medical profession in Minnesota evidently know what they are about, and their proceedings compare favorably with those of their Eastern brethren. Thanks for the copy sent us.

Having received many kindnesses from Mr. John Willyoung, Bookseller and Stationer, 139 Woodward Ave., Detroit, we would call the attention of our readers to the fine assortment of books and stationary he has constantly on hand. He also makes a specialty of medical books, but more especially is the agent of the books published by Henry C. Lea's Son & Co. This house was formerly Arnold & Willyoung, the junior partner being now the sole proprietor. Any published book needed can be obtained through him with promptness and pleasure. He well deserves the patronage of the reading public, and, by his liberality, that of the student of medicine and profession generally.

Pamphlets Received.

The Relations of Goitre to Pregnancy, and Derangements of the Generative Organs of Women. By Edward W. Jenks, M. D., Chicago, Ill. Reprint from the American Journal of Obstetrics and Diseases of Women and Children. Vol. xiv., No. 1, January, 1881.
New York: Wm. Wood & Co., publishers.

That goitre is more prevalent in females is notorious, and patent to the most common observer. The author recognizes no difference between an ordinary goitre and one connected with the uterine functions. The paper gives a fair resumé of the literature of the subject so far as it can be applied to the theory of the author. Practically, so far as goitre can have any relation to either pregnancy or arise from "generative organs of women," we cannot, from personal knowledge, endorse the views of the author, and we have had occasion to see quite a large number of cases. To learn the time of the commencement and of the growth, and its effects upon the physical economy we think the author has gone astray in his reasoning as to cause and effect. As to the treatment, nothing new is given.

The Annals of the Anatomical and Surgical Society, Brooklyn, N. Y.

This is a monthly journal devoted exclusively to anatomy, surgery, and pathology. Its special features are original lectures, original communications, historical and bibliographical sketches by Dr. George A. Fisher. It has also an editorial and a clinic department. It is well illustrated. Annual subscription $2.00. There is no other journal like it. G. P. Putnam's Sons publishers, 182 Fifth Ave., New York City.

Columnæ / diposæ. A newly-described structure of the cutis vera—with its pathological significance in Carbuncle and other affections. By J. Collins Warren, M. D., Instructor in Surgery, Harvard University; Surgeon to the Massachusetts General Hospital, Cambridge. Printed at the Riverside Press. 1881.

This is a pamphlet of twenty-eight pages with eight illustrations. Portions of it have appeared in

the Boston Medical and Surgical Journal, and so much of it as relates to the anatomy of the thick cutis vera has been prepared for a work entitled "A Manual of Histology," edited by Dr. Sattherwaite, and soon to appear from the house of Wm. Wood & Co., N. Y. City. It is a valuable addition to the science of dermatology.

The Index Medicus.

This is a monthly classified record of the current medical literature of the world, and is compiled under the supervision of Dr. John S. Billings, Surgeon U. S. A. Subscription $6.00 per annum. Send for sample copies to F. Leypoldt, publisher, 13 and 15 Park Row, New York City.

Tne Index Medicus has entered upon its third year. The first year it was financially a failure, but as the value of the work became known, the second year so much improved as to involve no loss. Two hundred more subscribers are only necessary to place it on a secure foundation, and we sincerely hope the profession will come forward to the support of this useful periodical.

Johns Hopkins University Circulars No. 9. Baltimore, Maryland, for March, 1881.

This circular is, as a matter of course, in the interest of the Johns Hopkins University, and gives a resumé of what is taking place in its course of instruction and management. This in an institution in which medical and other professional men are interested, more especially in its results. Please send the back eight numbers.

The Treatment of Scrofulous Diseases of the Skin. By John Shoemaker, A. M., M. D., of Philadelphia.

The author is desirous of having those who have used chlorate of potassium, externally or internally, to send him an account of their observations. Address, J. Shoemaker, M. D., 1031 Walnut St., Philadelphia, Pa.

The Mississippi Valley Medical Monthly. J. J. Jones, M. D., and Julius Wise, M. D., editors and proprietors, Memphis, Tenn. Vol. 1., No. 1. Subscription price, $1.00 per annum. Single No. 25 cents.

This is a new name for the Arkansas Medical Monthly since its transfer from Little Rock to Memphis, Tenn. The new journal starts off well, both in material and personal appearance. Brothers Jones and Wise will please accept our best wishes.

The Physicians and Surgeons Investigator. A Monthly Journal of Medicine and Surgery, Edited by A. M. Hubbell, M. D., Buffalo, N. Y. No. 1, Vol. 2.

Please send Vol. 1 if on hand. Exchange.

Herpes Progenitalis. By F. B. Greenough, A. M., M. D., Physician in charge of the Department for Skin and Venereal Diseases at the Boston Dispensary; Clinical Instructor on Venereal Diseases Harvard Medical School; Member of the American Dermatological Association. Reprint from the Archives of Dermatology, Vol. 7, No. 1., January, 1881.

Anæmia in Infancy and Childhood. By A. Jacobi, M. D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, New York. Reprint from the Archives of Medicine, February, 1881.
New York: G. P. Putnam's Sons.

Proceedings of the Convention of Druggists, and of the first meeting of the Illinois Pharmaceutical Association held at Springfield, Dec. 7th and 8th, 1880. W. W. Marmon, of Bloomington, President; Frank Fleury, of Springfield, Secretary.

Diphtheria--A Constitutional Disease. Its Local Manifestation, Clinical History and Treatment. By Dr. Frederick H. Hubbard. New York: Wynkoop & Hallenbeck, 121 Fulton St., printers.

Prolapse of the Funis Umbilicalis. By E. P. Christian, M. D., M. A., Wyandotte, Mich.; Member of the Wayne County Medical Society, etc., etc. Reprint from the January No., 1881, of the Physician and Surgeon, Ann Arbor, Mich.

Scarlatina. A Lecture Delivered in the Jefferson Medical College. By Wm. B. Atkinson, A. M., M. D., Lecturer on Diseases of Children.

The Illustrated Annual of Phrenology, and Health Almanac, 1881. Fowler & Wells, Publishers, 253 Broadway, New York City. Price, 10 cents.

Annual Announcement of the Course of Lectures Delivered in the Philadelphia School of Anatomy (for Practical Medicine and Surgery). 1022 and 1024 Hunter St., Philadelphia, Pa.

Therapeutic Progress.

A New Medical Specialty.—In the olden time the physician was his own pharmacist—that is, he was obliged to prepare and dispense his own medicine. But the duty becoming too laborious, on account of the growth of science, it was entrusted to an assistant. The assistant chosen was the apothecary. Now, the business of the apothecary has been, from time immemorial, to sell drugs; and it was not until a more recent date that he was also entrusted with a new and responsible duty of assisting the doctor. It is now claimed by the medical profession that the apothecary is violating his trust; and that thy violation consists in that he is doing other business beside assisting the physician. He is accused of selling drugs without an order from the doctor, and in the irregular forms of patent medicines, trade-mark pharmaceuticals, etc., he is blamed for prescribing over the counter, and for renewing prescriptions at the request of the public, to whom the law declares the prescription belongs. Is the apothecary at fault for this? Is he not a merchant in drugs, as in the olden time? If a merchant only, he owes no allegiance, and is not amenable, to the medical profession, or any other sect or profession. His relations are entirely with the general public. What the public demands he must do. If the public demand of him drugs, fancy goods, soda water, patent medicines, a few groceries, whisky and segars, should he be blamed for selling them? If the people also ask him to renew their prescriptions, they do not belong to the doctor, and has he any right in the matter? Surely the people do not recognize that right, if it exists. These are vital questions, and until they can be satisfactorily answered it is easy to see the position which the apothecary must hold in relation to the medical profession.

The next question is, what shall the doctor do, under the circumstances? Discharge his assistant and employ a new one, or retain the old? But this question is being answered for the physician by the evolution of events. Pharmacy has become too burdensome to the apothecary, as to the physician of old, and he has delegated it to the manufacturing pharmacist. The enormous growth of the business of the manufacturers during the past decade proves that this transition is now going on, and the correctness of this statement. It is impor

ant, then, that the profession should know more about the manufacturers, their policy, and their relation to the medical profession. Are they merchants, too, doing business with the general public? If so they owe no greater allegiance to the medical profession than the apothecary. If, on the contrary, manufacturing pharmacists claim to be a branch of scientific medicine, they should conform to the rules which govern a scientific profession.

I do not know what policy the manufacturers have adopted in this matter, but judging from their declaration of love for science, and affectionate regard for the physician, the profession are led to believe that they are what they certainly attempt to convey by their assertion, scientific pharmacists. Arguing, then, that this is the fact, manufacturers owe their allegiance to the medical profession, and have no right to interfere with the physician's prerogatives. The medical profession, however, will have to arraign certain of these manufacturing houses on the charge of not only interfering with the physician's prerogative, but also of attempting to usurp his province of treating the sick. But first, why have they not a right to treat the sick? The answer is simple. Because they are not physicians, either by education or training. If physicians, would they not have the right to practice medicine and pharmacy both,? I answer, yes, under the same rules and regulations which govern the medical profession, but not otherwise. But they are charged of practicing medicine without a medical education ; and also of using unfair means of competing with the doctor. Counsel for the profession will support this charge by the plea that certain manufacturing pharmacists are preparing for and advertising ready-made prescriptions to the public ; that they send out medicines under ingenious names, protected by trade-marks and patents, and then solicit the doctor to prescribe the same; but that these trade-mark pharmaceuticals are accompanied with labels, and circulars, carefully worded to catch the public eye ; that they are advertised in the secular and religious press ; and as if to exasperate the profestion still further, it is claimed that this whole system of abuse is cordially sanctioned by the whole medical profession. This attempt to obtain tbe public patronage belonging to the medical profession is too apparent for controversy. That it is the exclusive prerogative of the physician to treat the sick some may be disposed to deny. They may claim that prescribing druggists, quacks, old women, and patent medicine men share equal privilege with an educated profession ; but no fair mind can excuse this contemptible hypocrisy, which, under the guise of friendship, seeks to undermine the medical profession.

What will become of the physician if this condition of affairs is allowed to go on? It is a rivalry of organized executive ability against an unorganized, impoverished profession. Upon one side is all the machinery of trade, facilities for marketing goods and creating a demand for them by advertising ; on the other a profession who have neither the time nor opportunity for trade. Is not the answer apparent? When the medical profession, forced into adopting trade to gain a livelinood, are prevented from devoting their time to the investigation of disease and means of cure, the wheels of progress will be clogged, and the advance of science greatly hindered thereby.

What shall the physician do, then, for his own protection? Beset with powerful foes, behind and before, there seems to be but a poor showing for him. To answer this question it is necessary to look at this subject from a new and entirely different standpoint. It is the relation between trade and science, which, entering into this question, greatly complicates the matter.

A clear line of demarkation should be drawn between trade and science. They are exactly opposite in their tendencies, and it is the attempt that is beimg made to mix up trade with science that is causing all, or at least a great deal, of the trouble and feeling between the medical profession and the drug trade. For the sake of illustration, trade can be represented by protection, science by free-trade. Science professes to exhibit what is actually known or what may be learned by exact observation, precise definition, fixed terminology, classified arrangement and rational explanation. It is impossible to satisfy the demands of science by any system of protection, as science demands the publication of the whole truth, and its classification into the forms of science, for the benefit of the world.

The whole tendency of trade, however, is a selfish one. Trade seeks to protect her own interest without regard to others. While science is laboriously delving in the mine of knowledge, to dig out the ore, trade coins it into money. But greedy trade, instead of coöperating with science, for mutual benefit, seeks not only to monopolize all the money, but all the knowledge as well, forgetting her debt to science.

Take this illustration and apply it to the scheme already referred to, and the tendency of trade will become apparent. As before shown, it kills the miner ; but in addition to this it locks up the mine. Let me illustrate : What would have become of science if heat, light, electricity and all other forces had been patented when first discovered? Would not trade have locked up these forces and prevented their investigation? The patent law was designed for the protection of science in this matter, by offering the inventor seventeen years control of his invention, in exchange for its publication. The patent law was not intended to lock up forces from investigation, but, on the contrary, to encourage the investigation of forces. While it does not patent electricity, it protects the inventor of a dynamo-electric machine. Medicine is a curative force, and should not be patented, any more than heat, light, or other forces. By patenting medicine scientific progress is hindered, trade is injured, and the interests of suffering humanity are sacrificed. To this may be answered, that the patent is granted upon certain compounds only, not upon the drug itself. I answer, yes, but the compound becomes, to all intents and purposes, the same as a new drug, and the control thus gained permits unprincipled manufacturers to create a demand far above real worth, by advertising cures only. Honorable trade is thus thrown into disrepute. Legitimate competition is the cure for this.

Now, I claim that pharmacy is a science, or

rather, a branch of a science, and should be so regarded. It should be separated from trade, otherwise it will be eventually locked up by trade, and scientific progress rendered well nigh impossible. And this is very important to the medical profession, as pharmacy is a branch of the science of medicine. Pharmacy, according to Dunglison, "is the art which teaches the knowledge, choice, preservation, preparation and combination of medicines." The practice of this art might have been at one time the province of the apothecary, but at the present time it is not carried on exclusively by any one class of individuals. The several functions which together constitute the practice of pharmacy are divided up among the drug brokers, wholesale druggists, manufacturing pharmacists and apothecaries. The drug brokers and the wholesale druggists select the drug and carry it in stock, the manufacturers make it up into pharmaceutical preparations, and the apothecaries dispense it. Some of the manufacturers are combining in their business all of these functions, and they should be looked upon as the nearest approach to the ideal. These houses select their own drugs, often import them, and sometimes even send accredited agents to the source of supply, to gather them under the most favorable conditions of climate, soil and season. Manufactured into the regular forms of the pharmacopœia, they are dispensed to the apothecary, and by him, in turn, to the patient, upon the prescription of the doctor.

Manufacturers, however, are not practicing pharmacy as a profession, but as a trade. By this I mean that these houses are running their business upon a trade basis, not a scientific basis. If they were on a scientific basis, they would publish all their different methods of manipulation for the benefit of science. They would have no trade secrets whatever. They would tell just how they sugar coated pills, the best way to gelatine coat pills, and every other manipulation of the kind. They would not only furnish this information to those who might ask it, but they would take particular pains that it should become items of scientific information, and the public property of the profession which they are supposed to represent. Otherwise they cannot be regarded as scientific pharmacists.

This being necessary to constitute a scientist, have we any scientific pharmacists? I claim not, at least as a class. The business of the apothecary cannot stand this test, though there are apothecaries that take this stand. The business of the manufacturers cannot stand this test, though there may be an exception. One manufacturer with whom I talked said that though he was willing to publish all formulæ and as a rule did so, yet he did most assuredly object to giving every lazy competitor the benefit of his enterprise and skill.

But pharmacy as a business being on a trade basis, and therefore subject to trade tedencies, what is to become of pharmacy as a science? As already stated, pharmacy is a branch of the science of medicine. It is necessary to be learned in all the branches of that science. A pharmacist must be, therefore, a physician. To be scientific he must publish the results of his investigations for the benefit of his profession. But such a publication is not always compatible with trade. A scientific pharmacist should not, therefore, be a tradesman. There is a demand, then, for scientific physicians, educated in pharmacy, to take up pharmacy as a science. Is there not room here for a new medical speciality? The physician did not give up his right to make pharmacy a study, by employing an assistant. He cannot expect his assistant, uneducated in medicine, to be proficient in the investigation of drugs. He must possess an accurate knowledge of every property which they possess, physical, chemical, therapeutical, physiological and pharmaceutical, to justify him in any original investigation of his own.

The province of this speciality should be to investigate drugs, with the view of classifying them for the benefit of science. Every new drug brought to the notice of the physician by trade should be thoroughly tested, and the results of these tests furnished to the physician. Of course, patients should not be experimented upon with unknown drugs, without sufficient reason to justify their use; but valuable drugs have come to us from unscientific sources. Because a drug is used by a quack, an Indian medicine man, or an old woman is no proof that it is devoid of virtue; and when it is the universal belief of all old women that certain herbs possess certain virtues, we are just as much justified in trying them, to see if this belief is founded on fact, as were our grandfathers, who collected the best of them to make a pharmacopœia.

Hospital physicians, especially, should take up this line of work, for in the hospitals there is a better chance to observe cases. Not one hospital, only, but many hospitals, should investigate the same drug, for in that way comparative results can be ascertained, and the true worth of the drug made known.

Finally, let trade and science unite in this commendable work, for it is for mutual benefit. The knowledge of new drugs will be a benefit to science, for by it the physician is better armed and equipped to combat disease, and now and then a valuable gem is picked up, which otherwise would have been lost to the world. A publication of the truth regarding new drugs is beneficial to trade, as it increases the demand for good drugs, which trade only can supply,—F. E. Stewart, Ph. G., M. D., of New York in *Med. and Surg. Reporter.*

Empiricism.—To discourage empiricism and charlatanism, of whatsoever kind, is the aim and object of every professional scientific journal. Whether this object is aided by publishing, month after month, trashy, non-scientific formulas under fanciful names, and recommending them as cures for certain diseases, is a debatable question. To state that a certain drug or combination of drugs has been found valuable in certain diseases is legitimate, but to ask the novice or busy practitioner to prescribe a peculiarly complex combination of ordinary remedies on the mere recommendation of some eminent professor, and without any effort at the separation of the active from the passive ingredients, is not only unprofessional but encourages the use of private formulas, secret nostrums and proprietary medicines. Judging from the many formulas thus published, we would infer that many otherwise worthy practitioners devote their spare

time to inventing, recommending and scientifically advertising their prescriptions. One month a "Globuli Peptici" is freely announced, next month a "Pil. Antiphlogisticæ," the month after some other nostrum, and so on. These formulas, consisting as they do, of only two or three active ingredients combined with six or eight totally inert non-medicinal agents, forces us to believe that they are prepared for the purpose of misleading and puzzling the unlearned in therapeutics, and inducing new beginners and ignorant practitioners to use the formulas, giving, of course, proper credit to the originator. Is it not about time that this quackery among the elect were stopped? If pepsin, cinchonidia, and muriatic acid aid digestion; and if an acid solution of quinine will break up a cold, it may be well to publish it, but it is certainly unnecessary to give the formula in full, with all its worthless ingredients. Let scientific medical journals refuse to lend their assistance to these non-professional and degrading schemes by refusing to publish such formulas. Let them only name the active ingredients, allowing each practitioner to regulate the method of administration and the dose according to each individual case; they will thus incite the ignorant to study, and take away from the manufacturers and vendors of secret and proprietary medicines the class of custom on which they grow rich.—A. L. Lengfeld, M. D., in *San Francisco Western Lancet.*

ASTHMA TREATED BY LOCAL APPLICATION OF IODINE.—I wish to record the following case in connection with Dr. Saundby's letter, published in the British Medical Journal of November 20th.

A lady, æt. 40, had suffered from asthma for ten years. The attacks had been much more frequent for the last year and a half, and longer in duration. For six months no single week had been passed without three attacks or more, which, whilst not always severe, were sufficiently so to prevent sleep for three or four hours. Occasionally this state of things became worse, the paroxysms being of more severity. On November 26th, I painted over the line of both pneumogastric nerves with iodine liniment, full strength; but this rendering the surface too tender, an application of half strength was substituted for it, and applied for the next two days at night. Alternate nights were then considered sufficient, and ultimately once in three. The lady's condition, from the date given above up to the present time, has much improved in every way, she having suffered slight discomfort only on three or four evenings, rest being at no time interfered with. Moreover, she has been able to sleep on an ordinary pillow, with her head low, a thing never admissible before. Twice attacks of indigestion have occurred, and passed away without inducing asthma, as has usually been the case. Owing to this complete rest at night, and freedom from distress, she has returned to a more active mode of life, and "enjoyed herself" as she "has not for months or more."

I simply state the facts of this case, because much benefit has apparently resulted from the use of the remedy suggested by Dr. Faulkner. No medicine, I should say, has been used at all besides the iodine locally.—Lewis W. Marshall, M. D., in *The British Medical Journal.*

EXTRACT OF NARCOTIC PLANTS.—(H. Bretet.) To determine the value of various extracts of narcotic plants, extracts were made by different processes in vogue and the proportion of alkaloid in them determined.

Comparative experiments on conium with the extract of the defecated juice and extract by infusion, show that 10 grams of the former yield from 0.01309 to 0.0159 gram coniine, and the latter, 0.01857 to 0.0329 gram.

Analyses of belladonna and datura were made with more uniform results.

1 kilo of fresh leaves of belladonna:

On clarification of juice yield

	Grams.	Containing.	Atropine. Per cent.	Grams.
	5.16	coagulum ...	= ———	= 0.0580
yield	29.60	juice extract	= 0.305	= 0.1067
Deprived of juice "	15.50	aqueous "	= 0.721	= 0.1117
When dried...yield	54.94	" "	= 0.721	= 0.3961
" " ... "	48 54	alcoholic "	= 1.352	= 0.6562

Alcoholic ext. of datura....yields 1.442 per cent. alkaloid.
" " belladonna " 1.081-1.4 per cent. alkaloid.
Defecated juice of " " 0.090-0.27 per cent. alkaloid.
Aqueous extract of datura.. " 0.451 per cent. alkaloid.
" " belladonna " 0.721-0.18 per cent. alkaloid.

These results show that the alcoholic extract is much the richest in alkaloid, the extract by infusion ranks next. The extracts of the non-defecated juice are richer in alkaloid than the defecated; this confirms the opinion that the extracts of Störck are more active than those of the defecated juice.—*Pharm. Journ.* and *J. Chem. So*

New Remedies.

New Remedies.

THE PHYSIOLOGICAL ACTION OF THE ACTIVE PRINCIPLE OF PISCIDIA ERYTHRINA—JAMAICA DOGWOOD.—Through the liberal enterprise of Messrs. Parke, Davis & Co., of Detroit, two powerful drugs have been introduced to the profession. These two agents are obtained from the island of Jamaica; the one, urechites suberecta, a cardiac agent, resembling aconite in its action, the other a narcotic, whose action I shall speak of in this paper. In another place I have set forth some experiments made with a fluid extract of this narcotic. Through the kindness of Prof. Edward Hart, of Lafayette College, I am able to present some experiments (Detroit Lancet, June, 1880) with the active principle. He has worked out the active agent in this drug, and will fully describe its chemical relations.

Piscidia, the name by which I shall in this paper term the active principle, was suspended in water, or in glycerine and water. Its solubility in alcohol was of no value in my experiments, as the alcohol would have been a disturbing factor in studying the action of the active principle. It is on account of its insolubility in water that I am unable to give the exact dose the animal received.

GENERAL ACTION.

Experiment 1.—Rabbit, at 10.25 A. M., received about 1-6 of a grain of piscidia, dissolved in alcohol, subcutaneously; no marked effect. 10.45 A. M., another 1-6 of a grain given in the same manner; pupil at first contracted, afterward dilated. 10.52 A. M., inco-ordination, dozing. 11.50 A. M., an-

other 1-6 of a grain of piscidia given subcutaneously. 12.50 P. M., another 1-6 of a grain injected into the jugular toward the heart; began to sleep, and continued to do so up to 3 P M., when he fell over on his side; recovered during the evening.

Experiment 2.—Etherized rabbit received about a grain of piscidia, suspended in water, through the jugular towards the heart; in a few minutes convulsions ensued, rapidly followed by asphyxia and death.

Experiment 3.—Rabbit received through the jugular toward the heart about ⅛ of a grain of piscidia. When let up, ran away; dyspnœa ensued, then sleepiness, drooping of head, till animal's nose touched the floor, when he fell over on his side; respiration became feeble; convulsions and death ensued; heart beat 244 per minute.

These experiments demonstrate that the active principle produces effects in no way differing from those caused by the fluid extract. It at first increases the respirations, produces incoördination, blunted sensibility, slowness of the heart, contraction of pupils, followed by dilatation, convulsions, asphyxia and death.

at 4.10 P. M. Sciatic nerve bared and found to be irritable, the weakest current causing muscular contraction, being 240 mm., du Bois' inductorium.

Experiment 5.—Frog, at 12.50 P. M., had the left iliac artery and vein ligated; he received about 1-10 of a grain of piscidia subcutaneously. 1.10 P. M., the want of sensibility which precedes the tetanus equal in both posterior extremities. 2 P. M., same decrease of sensibility in both posterior extremities when tetanus was developed.

These experiments prove that piscidia tetanizes and abolishes sensibility, the want of sensibility being due to central causes and not to an affection of the peripheral end of the sensory nerves. The great irritability of the motor nerves shows that they are not paralyzed.

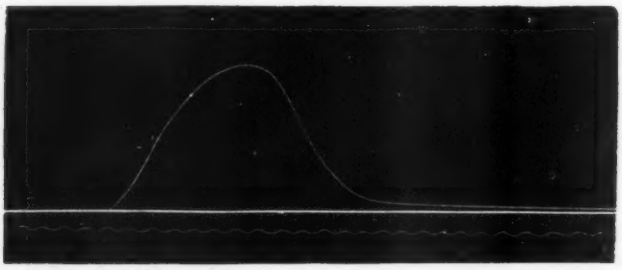

FIG. 1.

SPINAL CORD.

When a small dose of piscidia is given to a frog, then convulsions ensued. To determine if they are cerebral, spinal, or muscular in origin is necessary.

Experiment 6.—Frog received about 1-12 of a grain of piscidia. In about fifteen minutes convulsions ensued of a bizarre nature; medulla divided, but the convulsions still persist.

This experiment demonstrated that the origin of the convulsions was not cerebral. It does not prove that they are muscular.

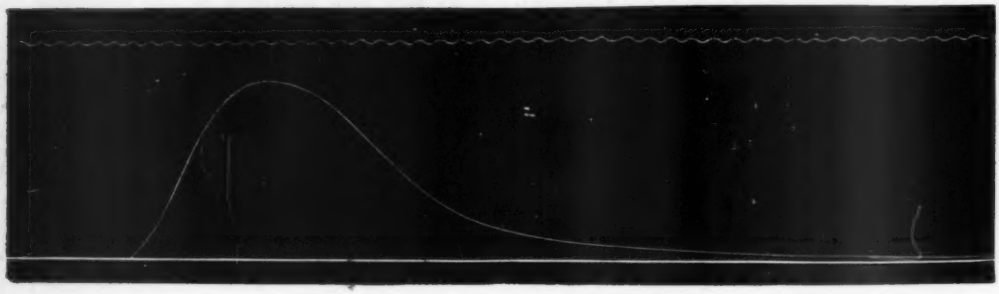

FIG. 2.

ACTION ON THE NERVOUS SYSTEM.

In this study I employed frogs of the variety without black spots—the "common green frog."

Experiment 4.—Frog, at 8.10 A. M., received about 1-10 of a grain of piscidia subcutaneously. 8.15 A. M., slight tetanus of the posterior extremities; labored respiration; can be easily handled. 8.10 A. M., tetanus more marked. 9.10 A. M., tetanus well developed, with opisthotonos. 11.35 A. M., 1-10 of a grain of piscidia subcutaneously; no tetanus present; considerable want of sensibility, which finally is completely lost; death

Experiment 7.—Frog received about 1-10 of a grain of piscidia subcutaneously; convulsions soon eneued. When medulla was divided, they still persisted; sciatic nerve on one side divided, and when the muscles of that leg are tapped they become convulsed, although not to such a marked

degree as is seen when they are in connection with the spinal cord.

The convulsions are partly referable to the spinal cord and to the muscles; they are of a spino-muscular origin.

In regard to reflex action, I have shown that the primary fall of reflex action, is due to a stimulation of the inhibitory centres of Setschenow, the tetanus to a spinal and muscular excitation, and the subsequent loss of reflex action to a paralysis of the sensory ganglia of the spinal cord.

ACTION ON MUSCLES.

To study the action of this drug I employed the gastrocnemius of a frog and Marey's myograph, which registered the contraction of the muscle upon the drum of a Foucault regulator. The time of contraction was noted by a tuning-fork registering 240 vibrations per second. The tuning-forks were kept in activity by an electrical current. When the frog was in the convulsive stage he was bound down, his central nervous system destroyed, the gastrocnemius attached to the myographic lever through its tendon, and weighted to the extent of five grammes. The electric excitation was obtained from the secondary coil of du Bois' induction-apparatus, the primary circuit being broken by the mercurial contact arrangement. The muscle was dierctly excited by thin wires, which were supported over it and did not interfere with the muscular contraction.

Fig. 1 represents the curve of a muscle not affected by piscidia, and taken under the same conditions as that of piscidia.

Fig. 2 represents the curve of piscidia muscle, showing the veratroid action of the drug on the muscle. Piscidia at first increases the height of a muscular contraction, and then reduces it. In both stages it causes veratroid contraction.

CIRCULATION.

In these experiments I used frogs and rabbits, the drug being suspended in water and injected toward the heart. In frogs it was used subcutaneously. The mean arterial tension was noted by means of Ludwig's kymographion. The time was noted by an electro-magnet and Ludwig's clock-apparatus to break the current every second. The pulse and pressure are given for periods of fifteen seconds.

Experiment 8.—Rabbit, etherized.

TIME.	PULSE.	PRESSURE.
2.15 0 P. M.	57	76
	piscidia, 1-6 of a grain.	
2.15. 15 "	46	76
2.15. 30 "	50	78
2.15. 45 "	53	76
2.16. 0 "	52	76
2-16. 30 "	57	70
2.16. 44 "	28	64
2.17. 0 "	30	66
2.18. 15 "	22	76
2.18. 30 "	28	76
2.21. 30 "	30	76
2.25. 30 "	24	74

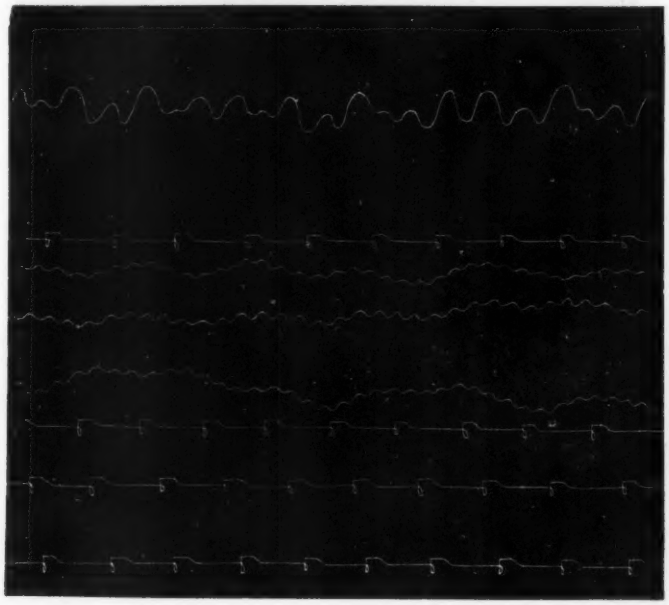

FIG. 3.

This experiment confirms the fact already noted with the fluid extract, that the pulse and arterial tension are reduced. To prove that this reduction was not due to stimulation of cardio-inhibitory ganglia, atropia was given but it did not prevent the usual depression of the pulse.

Experiment 9.—Rabbit; atropia by the vein; etherized.

TIME.	PULSE.	PRESSURE.
3. 8. 0 P. M.	45	44
	piscidia, about ⅛ of a grain.	
3. 8. 15 "	37	44
3. 8. 45 "	40	36
3. 9. 45 "	41	34
3.10. 45 "	43	34

TIME.		PULSE.	PRESSURE.
3.12. 0	"	piscidia, about ⅛ of a grain.	
3.16. 0	"	42	44
3.17. 0	"	47	44
3.17. 15	"	about ⅛ or a grain of piscidia.	
3.17. 30	"	50	44
3.34. 0	"	36	65

Experiment 10.—Rabbit, etherized, received through the jugular twenty drops of the fluid extract of piscidia erythrina, which rapidly reduced the frequency of the heart; artificial respiration kept up; chest opened. Then a solution of atropia was injected by the jugular, but the heart was not accelerated in frequency by it.

Experiments on frogs also confirmed the view that piscidia did not slow the heart by irritation of the inhibitory apparatus of the heart. A is the frog which previously received a dose of atropia; B the normal frog; chest opened in each.

TIME.	A.	TIME.	B.
9.20 A. M.	44	9.18 A. M.	38
9.21 "	1-10 of a gr. of piscidia subcutaneously.	9.20 "	1-10 of a gr. of piscidia subcutaneously.
9.22 "	44	9.21 "	34
9.26 "	38	9.25 "	34
9.29 "	36	9.28 "	34
9.35 "	34	9.30 "	34
9.45 "	32	9.32 "	32
9.50 "	32	9.36 "	34
10. 0 "	32	9.45 "	32
10.20 "	30	9.53 "	30
10.25 "	32	10. 0 "	30
		10.20 "	28
		10.25 "	32

That this drug does not paralyze the pneumogastric is proved by the following experiment:

Experiment 11.—Etherized rabbit received about ⅛ of a grain of piscidia through the jugular; chest opened; vagus bared and irritated, when the feebly and slowly-beating heart was quickly arrested.

All these experiments, and those previously made with the fluid extract, show that the piscidia reduces the pulse and arterial tension; that it does not excite or paralyze the cardio-inhibitory apparatus. From the fact that this drug affects striated voluntary muscular structure, it probably also affects cardiac muscle, rather than the cardiomotor ganglia. The slight preliminary rise and subsequent fall of arterial tension are due to stimulation and paralysis of the monarchical vasomotor centre, and paralysis of the heart itself.

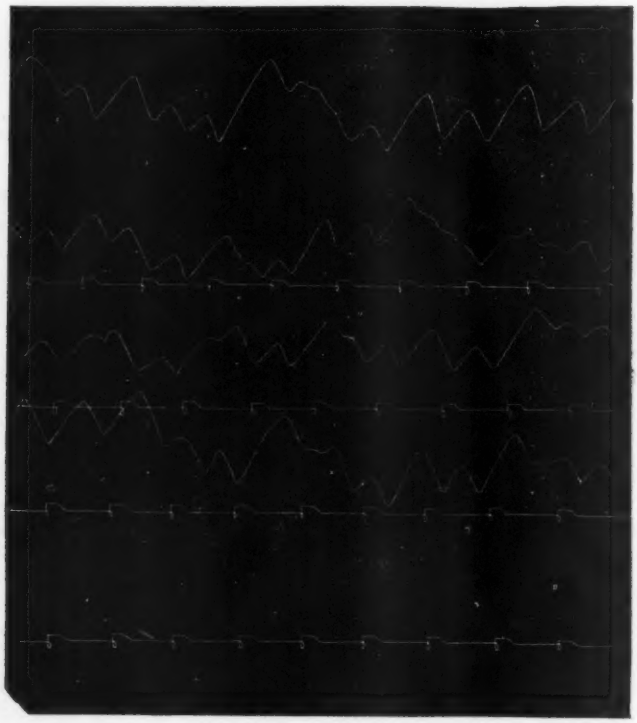

FIG. 4.

Fig. 3 represents the normal curve of a rabbit's heart, registered by the mercurial kymograph, whilst Fig. 4 shows the same under the action of the piscidia. The topmost curve in Fig. 3 shows the commencing slowness of the heart under piscidia. The abscissa line is twelve millimetres below the base of the line denoting seconds.

ACTION ON THE PUPIL.

Experiment 12.—Rabbit.

	WIDTH OF PUPIL.
12 M.,	8 mm.
12. 1 P. M., 20 minims of fluid extract of piscidia erythrina subcutaneously.	
12. 5 "	8 "

12.10 P.M.	twenty minims of fluid extract.		
12.25	"	"	
12.45	"	8	mm.
1.32	"	7	"
1.50	"	7	"
2.00	"	7½	"
2.10	"	8	"
2.15	" labored respiration.	8	"
2.24	" "	10	"
2.27	" convulsions in posterior extremities; none in the anterior.		
2.35	"	11	"
7.50	" animal breathing normally; no convulsions; cannot voluntarily move his limbs.	12	"
12 M.	next day, animal running about.	10	"

The drug at first contracts and then dilates the pupil.

These experiments have fully confirmed the results obtained from the fluid extract of piscidia erythrina. The following results may be drawn from these experiments:

1. That piscidia is a narcotic.

2. That it does not paralyze or excite the motor nerves.

3. That it does not act on the extremities of the sensory nerves, but their central connection —the sensory ganglia of the spinal cord.

4. That it produces convulsions, partly by stimulation of the spinal cord and partly by heightened excitability of the voluntary striated muscles.

5. That it reduces the frequency of the pulse by an action on the heart itself, probably on its muscular structure.

6. That the arterial tension temporarily rises by stimulation of the monarchical vaso-motor centre; that it soon falls, due to a partial paralysis of this centre and the heart itself.

7. That it at first contracts and then dilates the pupil.—Isaac Ott, M. D., in *Archives of Medicine.*

THAPSIA GARGANICA, OR BOU-NEFA OF THE ARABS.*—The Thapsia garganica is an umbelliferous plant which during recent years has attracted considerable attention in France, it yielding a rubefacient resin that has been made the basis of numerous preparations. Among the Arabs it is now known under the designation "bou-nêfa" (god of health), but in the time of Dioscorides it was called "dritz." In the present day the inhabitants of the Cyrenaican district call it "dérias," and the Kabyles use it under the name "deriés." A few years since it was alleged that the plant known to the inhabitants of the Cyrenaican district as "drias" was the real silphion plant of the ancients, and Dr. Laval, who collected the plant, described it as a new species, to which he gave the name Silphium Cyrenaicum. This claim, however, was refuted in an exhaustive treatise by M. Herincq, who demonstrated that the plant was identical with the Thapsia garganica of Southern Europe.† The author of the present paper, in the course of a lengthy section on the botany of the plant, expresses his agreement with the conclusions of M. Herincq.

The root bark of the Thapsia garganica is largely used as a medicine by the Arabs and Kabyles, internally against leanness, chronic diseases of the lungs and sterility; and externally as a remedy for rheumatic pains, gout, coughs, bruises, eruptions, etc. For internal use the bark, after drying, is reduced to a powder, and this is frequently made into a paste with roasted semolina, flavored with honey and butter; the paste is called "taminat-bou-nêfa," and preserved for use when wanted. Semolina is also added to water in which fragments of the root have been macerated seven days. The water becomes albuminous, milky, and contracts a decided bitterness and disagreeable taste. Sometimes a tablespoonful of the powder is simply added to a glass of water and taken as a dose. Another plan is to cut the cleaned and dried root into slices which are boiled in a little rancid oil; the oil preserves the active principles and the slices are rejected. A preparation is made also by cooking "coucousso" in the vapor of water in which bou-nêfa has been boiled several hours.

A decoction of the root prepared in closed vessels is used for fumigations. As a purgative, the Arabs and Kabyles boil eggs in a decoction of the fresh or dried roots, one or more being eaten as a dose. Finally, as a remedy in long-standing pulmonary complaints, a drink in which the natives have great confidence is made by boiling fragments of the fresh or dried and cleaned bark in milk, about 150 grams to a litre. It is stated that the natives are not very particular as to the doses of these preparations, and the patients are consequently sometimes purged violently, chronic or acute diarrhœa and even abortion being occasionally the result; no fatal cases, however, have been recorded.

For external use, the natives crush the roots and dry them under the ashes. The roots are afterwards cut into pieces with which the parts affected are rubbed. In veterinary medicine the Arabs obtain good effects with an ointment prepared by digesting the fresh or dry root in tar.

The collection of thapsia in Algeria is made exclusively by the natives. It is commenced in December, about a month after the appearance of the first leaves, and is continued to the end of March; it is never extended beyond the appearance of the stem, which takes place about the middle of April. The plant contains the greatest quantity of active principle in January, but the natives in Constantine prefer for their own use the roots gathered in March, though why is not known. Only the roots are gathered, the leaves being cut away. When a sufficient quantity has been obtained, the roots are taken to the nearest stream and washed; an incision is then made longitudinally and the bark is removed from the central portion, an operation that is easily effected when the root is of a suitable age. The central part is rejected, as nearly the whole of the active principle of the plant is contained in the bark of the root. The bark is sometimes brought in by the collectors in the fresh state, and sometimes it is dried by spreading it out in layers, three or four inches thick. When collected in large quantities for a special market the fresh clean bark is worth 25 to 30 francs per 100 kilograms.

*Abstract of a Thesis presented to the Montpellier School of Pharmacy. Communicated by the Author.

† *Phar. Jour.* [3], vol. vii., p. 750.

The collection is not pleasant work, nearly all those engaged in it returning with faces, arms and testicles puffed up and swollen. The Kabyles, who take less precaution than the Arabs, have frequently the whole body covered with pimples, which suppurate. Sometimes the collectors are seized with fever; but the worst cases are cured in a few days.

The root freshly cut is fleshy and heavy; by drying it loses about three-fourths of its weight.

The root bark of thapsia is not met with in European commerce. In the dry state it occurs in small unequal fragments, 4 to 10 millimetres thick, friable and brownish yellow on the external surface, which is sometimes smooth, and sometimes has more or less deep wrinkles that mark out small, prominent, convex, irregularly quadrilateral spaces. The internal surface is white, chalky-looking, often spotted ,with red; brownish, and finally striated longitudinally. The fresh surface of a section often exhibits a very clear golden yellow resin, which is found also in the internal crevices of the bark. The fracture is granular and compact. Examined with a glass it appears riddled with closely approximating, concentrically arranged, yellow-walled pores, amongst which is interposed the white chalky-looking tissue that forms the greater part of the mass. The bark retains for a long time the petiolar débris, represented by rosettes of fibres.

Together with the Thapsia garganica there grows another umbelliferous plant, called by the Arabs "cleka," and by the Europeans "false thapsia." This is referred by the author to Ferula nodiflora, Linn. (F. communis, Desf., F. densa, Delil.). The root of this plant is perennial, fleshy, greyish, nearly black on the exterior, and contains an abundance of an acrid milky juice, devoid of any vesicating action. Deprived of the ligneous portion and dried it presents a great resemblance to the bark of Thapsia garganica, and is now largely substituted by the Arabs for it. When the root is in a fresh state this fraud may be detected under the microscope. In the thapsia the primary interior layer of the liber is constituted by a series of broken concentric lines; in the cleka the layer is formed by a continuous line, and the resinous canals, which are regularly distributed, appear especially in the interior, whilst in the thapsia they are found especially in the exterior of the liber layer. When dry these characters can no longer be detected, and dependence must be placed on the color of the external surface, which in the thapsia is brownish yellow and in the cleka greyish and nearly black. After the barks have been dried a long time, however, exfoliation takes place and the sophistication is difficult to determine.

The first recorded chemical examination of the root of Thapsia garganica was made by M. Stanislas Martin, who reported that he had found in it a rubefacient resin, tannin, starch, extractive, lime, ligneous matter and "thapsic acid." The author of the present memoir, however, gives his reasons for suspecting that the "thapsic acid" was really hydrochloric acid. Another analysis of Thapsia garganica root was made by M. Yvon in 1877, and was reported at the time in this Journal.* M. Blanchet also has made partial analysis of the dried and fresh bark, 90 per cent. alcohol being used to separate the resin, with the following result:—

	Dried Bark Collected in January 1879.		Fresh Bark.	
Water	0·00		80·70	80·70
Organic Matters	91·85		17·75	
Starch		20·52		4·41
Gum and Coloring Matters		7·32		1·47
Resins		5·55		2·15
Matters soluble in Alcohol and in Water		1·38		2·40
Elements not estimated		57·08		7·32
Inorganic Matters	8·15	8·15	1·55	1·55
	100·00	100·00	100·00	100·00

From these results it appears that the bark from fresh roots, which lose 80 per cent. of their weight in drying, yield 2 per cent. of resin, whilst bark that has been dried one year yields only 5·55 per cent. This M. Blanchet considers to be due to the oxidation of part of the resin, in which state it is no longer soluble in the alcohol. In the absence of a supply of newly dried bark no experiment could be made as to its resin value.

These results, however, do not quite agree with those reported by other authors. M. Beslier,† following the process of the Codex, obtained from the fresh roots about 2 per cent. of resin, from the same roots dried in a stove at a moderate temperature an average of 10 per cent., and from the bark, completely dried, about 15 per cent. On the other hand, M. Nielli, treating the fresh roots with 90° alcohol, obtained an average yield of about 4½ per cent., whilst the dried bark only yielded a little more than 5 per cent. According to this last result, as at least four parts of fresh bark are required to make one part of dry bark, there would be a great loss of active substance during drying. It appears, however, that as a matter of convenience, and to avoid loss of alcohol, M. Nielli uses the dried bark in manufacturing operations.

Some comparative experiments made to ascertain the relative value of 90 per cent. alcohol, ether, and carbon bisulphide as solvents of the resin showed that the alcohol was the best solvent, ether came next, and carbon bisulphide last.

When the brown thapsia resin is treated in a capsule with boiling water it softens and nearly liquefies. In this state it may easily be divided by stirring with a glass rod; it then takes a lustrous yellowish color, which it retains on cooling and loses after a fresh treatment with alcohol. Upon heating it in a water-bath, also, it regains its brown color, but more slowly. When the resin was maintained during six hours at a temperature of 100° C., M. Blanchet found that it became more compact and darker in color; after cooling its adherence to the capsule was stronger, but the resin did not become brittle, as described by some authors. Twenty-five grams, thus heated, lost 1·80 gram of its weight.

Pure thapsia resin is brown; it has an acid reaction, which it communicates to distilled water after a few minutes' contact at boiling temperature. The resin burns with a bright flame. When treated with sulphuric, nitric or hydrochloric acid in the cold it gives no marked reaction.

* *Pharm. Journ.* [3], vol. viii., p. 162.

† Soubeiran's 'Traité de Pharmacie,' vol. ii., p. 192.

The directions in the Codex for the preparation of the thapsia resin are to wash the bark with hot water, dry and cut it, and then to treat it several times with boiling 90° alcohol until it is completely exhausted; the liquors are afterwards united and the alcohol distilled off by means of a water-bath. The residuary resin is purified by redissolving it in cold 90° alcohol, filtering the solution, and distilling until the residue has acquired the consistence of honey, in which state it is suitable for the preparation of the plaster and revulsive sparadrap.

M. Nielli, a pharmacien, of Phillippeville, Algeria, who prepares this resin on a large scale, uses cold water instead of hot to wash the bark before drying, and after the first distillation submits the resin to repeated washings with boiling water until extractive and gummy matters are completely removed, and then treats it with 96° alcohol. M. Nielli operates upon the bark ground to a coarse powder in a special apparatus constructed of copper, as it has been found that the resin determines a rapid oxidizing action on vessels made of iron.

The advantage of this treatment of the crude resin with boiling water will be evident when it is mentioned that according to M. Martin the thapsia resin met with in commerce sometimes contains as much as two-fifths of its weight of matters soluble in water.

During the treatment of the resin an aromatic odor, *sui generis* is disengaged, which is not disagreeable. This is due to a very volatile essential oil, which is soluble in alcohol, slightly soluble in water, and more soluble in ether, which separates it, on agitation, from water. The oil communicates to ether a magnificent blue color.

The activity of the resin is so excessive that in spite of all precautions, during the treatment with alcohol, and especially during the evaporation of the alcohol, it is impossible entirely to prevent inconvenience to the operator. Even to remain a few minutes in the place where the operation is being carried on is sufficient sometimes to provoke a rather painful feeling of heat, which is localized generally in the neck, the eyelids and below the lobes of the ears.

The reducing of the bark to a coarse powder and the handling of the latter to put it into the apparatus, are the operations that require most care and are most dreaded by the Arab workmen.* It is very difficult to persuade the workmen to undertade the work a second time, as from the first hour it causes a very intense swelling, notwithstanding that they fasten cloths closely across their mouths and nostrils.

According to M. Blanchet thapsia plaster applied to the skin exercises a special action. The skin is irritated, heated and reddened, and becomes the seat of an extremely lively itching. This is followed by an eruption of very numerous and closely approximated miliary vesicles, full of purulent serous matter. When the application has been continued for only a short time, the vesicles continue to develop during some days, then they wither, assume a darker color, dry and form small thin scales that soon exfoliate. When the action of the resin is continued for a longer time the vesicles become confluent, burst, and together form an ulcerating and suppurating surface, but without any true blister, in which the action of this resin is distinguished essentially from that of cantharides. The ulcerated vesicles dry up after a few hours and become covered with light squamæ that fall off without leaving any trace on the skin. The application of thapsia plaster is said to be beneficial, especially where it is desired to produce a revulsive effect in rheumatism, bronchitis, pleurodynia, pleurisy, etc., the length of the application being made dependent upon the amount of effect desired to be produced.

There is a formula given in the Codex for the preparation of the "sparadrap revulsif." Another formula, given by M. Denoix, is as follows:—

Colophony	1500
Elemi	1250
Yellow Wax	1800
Turpentine	500
Thapsia Resin	550

Melt the colophony, elemi and yellow wax, add the turpentine and thapsia resin, strain through linen and spread.

A resin is also obtained by treating the "cleka," or "false thapsia," with 90° alcohol. It is yellowish-brown and, like thapsia resin, is soluble in alcohol, ether, and carbon bisulphide. This resin is, however, entirely without rubefacient effects. It gives no characteristic reactions with sulphuric, nitric or hydrochloric acid.—*C. Blanchet, in Phar. Jour. and Trans.*

* A form of apparatus used by M. Lallemand has already been described in the present series of the Phar. Journal, vol. ix., p. 144.

HOANG-NAN.—During the past few years considerable mention has been made in the Journals of a plant called "Hoang-Nan" used by the natives of Tonquin as a remedy for leprosy and said to be of value in the treatment of hydrophobia. Lesserteur, director of the school of Foreign Missions in Paris, has collected and published in a pamphlet of some ninety pages, such particulars in regard to the plant as are of interest to the world of medicine.

Botany: Hoang-Nan, "Tropical Bindweed," met with on the mountains between Anam and Tonquin. Family, Loganiaceæ. Named by Pierre, Strychnos Gautheriana, from a missionary M. Gauthier. Habitat, mountains abounding in lime stone; grows with slender stem without support from the ground, to branches of lofty trees around which it twines itself. Resembles the vine or the Clematis. Stem, grey or reddish, according to age. Leaves, dark green, covering the high branches of the trees to which it is attached. Grows only in spots; is not very abundant. The bark has been examined by Planchon (Journal de Pharmacie et de Chimie, May '77.) He finds it to be closely related to "False Angostura" bark. Wurtz, on subjecting the bark the chemical analysis finds it to contain the two alkaloids, Strychnia and Brucia, the latter predominating.

Physiological Action.—Livon, professor of Anatomy and Physiology in the École de Médecine, at Marseilles, has made twenty-five experiments with the tincture of the bark upon frogs and dogs. The following are his conclusions: "Hoang-Nan would seem to belong to the Strychnos family, although

differing slightly in its effects from Strychnia or Brucia. The action of strychnia shows itself in a a general manner all over the body. In the case of Hoang-Nan the tetanic convulsion, begin always in the hind legs of the animal and gradually spreading over the entire body, become general. In the case of Brucia the contractions are more vigorous after death than at the time of death itself; the animals poisoned by Hoang-Nan show movements after death, but only for a short time." In the case of Brucia poisoning some of the frogs manifested violent contractions 1¼ hours after death.

Method of administration in leprosy and other diseases.—The remedy is prepared according to the following formula:

℞ Alum, 1-5
Realgar, 2-5
Bark of Hoang-Nan 2-5.

Reduce the whole to powder and make into pills weighing each 25 centigrammes.

At Trinidad, Hoang-Nan has been given to twenty-four lepers and has caused improvement in the symptoms of all but one. We give an account of one of the cases in detail, from a table sent to Lesserteur by R. P. Étienne, of Trinidad:

L. H., little Creole boy, black, born 1866, leprosy from early infancy. Treatment began March 16, 1877. Symptoms at beginning of treatment, spots (taches) upon the abdomen, arms, legs, squamous condition of the arms and legs, puffiness of the face, hands and feet, nose obstructed, hemorrhages; tubercles on the forehead, eyebrows, cheeks, nose, lips, ears; on the alæ of the nose on each side are large round tubercles; eyelashes partially gone, eyebrows wholly so; hyperæsthesia of the head; anæsthesia of the rest of the body to a greater or less extent; fever continually present; appearance, frightful.

Results of treatment at the close of November, 1878: stains (taches) on the abdomen and arms wholly gone; almost all gone from the legs; the squamous condition remains, to a slight degree, on the bottom of the right foot only; the puffiness of the face etc., gone; obstruction of the nose, etc., gone; tubercles on the forehead, etc., gone, (one remains, greatly reduced in size, on each ala of the nose and on each ear); eyelashes wholly grown out again; eyebrows partly grown out again; hyperæsthesia gone; fever gone; anæsthesia gone; appearance no longer hideous.

General observations of Etienne upon the remedy.—1. The remedy works almost stimultaneously upon all manifestations of the disease without exception. Upon the muscular paralysis it seems to produce the least effect.

2. The curative action upon the fever is specific in all the cases.

3. The fact that the disease is hereditary does not seem to militate against the action of the remedy.

4. The same holds true to a certain extent in regard to the length of time the patient has suffered from the disease, unless too great ravages have been made—(two of the cases treated had been ill for 17 and 20 years respectively.

5. Treatment with Hoang-Nan extending over a period of two years did not tire the stomach nor injure the general health.

6. The action of the remedy is most striking in the beginning of the treatment.

7. After treatment for a long time with Hoang-Nan and Arsenic Sulphide combined, the patients re-acted surprisingly to the influence of Hoang-Nan given alone; the Hoang-Nan given alone acts as a laxative.

8. To appreciate the value of the treatment it must be remembered that in the cases where it has been used, there has been a general absence of good nursing and of hygienic regulations.

At Guadeloupe three cases of leprosy, have been reported, one showing marked improvement after three weeks treatment with Hoang-Nan in a period of six weeks, resting from the remedy alternate weeks. The other two also showed marked amelioration.

At Christiansted, in the Danish Antilles, M. Guilbot, curé, reports one case of "humid" leprosy treated with marked results, the ulcers especially yielding to the action of Hoang-Nan, and cicatrizing.

Two cases are reported treated in Venezuela, also with flattering results, at the town of Camana.

At Pondicherry, in India, Desaint and Jobard have treated fifteen cases of leprosy with Hoang-Nan. Their conclusions are as follows:

"1. Hoang-Nan is an active remedy destined probably to be of great service, not only in leprosy, but also in the treatment of all indolent ulcers, etc.

2. Its effect manifests itself especially upon the substance of the spinal cord, which it excites strongly.

3. In all lepers it produces at once a general and extraordinary improvement; the patient becomes more active, more joyous, and more vigorous.

4. In about two months anæsthesia disappears and sensibility is restored more or less, according to the nature of the case.

5. The ulcers change in nature and tend to cicatrize.

It is therefore an energetic and a valuable remedy which should be studied with great care."

Feron, of Pondicherry, finds Hoang-Nan valuable in subduing the fever of leprosy, but combats the statement elsewhere made that it is efficacious in the treatment of all fevers. He thinks it contra-indicated in bilious and intermittent fevers, and also in the fevers of children.

Feron treated two bad cases of scrofula with Hoang-Nan in a man and in a woman. The symptoms in the woman were wholly relieved and those of the man greatly ameliorated. In each case the ulcers were noticeably improved in condition; those of the woman healing completely, those of the man almost entirely, and such as had healed completely in three months did not re-open.

Foit, missionary at Tonquin, reports a case of bad abscess in the leg of a woman, which the physicians had declared impossible to be healed, treated successfully with Hoang-Nan in three months time.

The treatment of Serpent Bites, etc., by Hoang-Nan.—Among the numerous happy results brought about by Hoang-Nan, the cure of serpent bites is worthy of notice. In the Missions Catholiques, 1875, appeared the following:

"Hoang-Nan cures the bites of all venomous ser-

pents just as it cures bites of mad dogs; it is necessary to give a dose proportionate to the severity of the bite. A theologial student at Tonquin, versed in the remedies of that country, gave in half an hour three pill to a man bitten by a black viper; he was sufficiently fortunate to neutralize the effects of the poison with this amount."

Mgr. Gauthier gives us an account of his own experience:

"Last July my great toe began to mortify from the effects of a bite from a venomous reptile. The sore gave me trouble for many months, without relief from any remedy. Finally trying Hoang-Nan I took about three grammes (45 grains) in twelve hours, and noticed a very perceptible improvement. I then took the remedy once a day for four days. The cure was so complete that after taking it on the fifth day I began to feel the toxical effects of the remedy; these however disappeared in the course of some hours."

Feron writes to us (Lesserteur) May 17, 1879:

"* * * The Cobra Capello is, as you know, one of the pests of India, killing annually more victims than the cholera; a person severely bitten by this serpent usually dies in half an hour or more. On the 7th of April a boy of 17 years came to me, just bitten by a cobra; ten minutes had hardly elapsed and already his eyes were covered by a film; he could not see a lighted lamp held before him. He was able to speak, however, and could indicate to me the progress of the poison; he had been bitten above the heel upon the tendo Achillis, and the swelling had already passed the upper part of the thigh; a few minutes more and he would be dead! I gave him, one after another, three pills of Hoang-Nan. The effect was instantaneous; in less than a minute he recovered his sight and felt the pain descend below his knee, a fourth piil drove it to the ankle and a fifth to the bottom of his foot. * * * The wound healed and the pain disappeared. * * * *."

In the case of a man also bitten by a cobra, Feron used Hoang-Nan with like success; also in the case of another man bitten by a viper on the shoulder, Hoang-Nan given internally and applied in powder externally, worked a cure.

Feron has also used Hoang-Nan in the treatment of paralysis.

In one case of hemiplegia of six years' standing, the remedy given for about a month enabled the patient to walk with ease and to use the arm and hand—the fingers remaining more rebellious, but finally opening and becoming fit for use—the thumb alone retaining its rigidity. In another case similar results were obtained, and July 14, 1879, Feron writes that both cases are improving steadily.

The use of Hoang-Nan in diseases of different kinds.—R. P. Levy, a missionary in Mesopotamia, used Hoang-Nan at Mossoul, where thousands of people have no medical aid save that given them by the mission. Levy writes, January 16, 1879:

"I prepared the remedy homœopathically, making 2,000 pills of 20 centigrames each. I have given it both in large and in small doses in the following diseases:

"1. Infectious ulcers, especially venereal.—From 2 to 4 pills a day, according to age of patient and severity of disease; cure prompt. In homœopathic doses cure more slowly, but without liver troubles or vertigo, which are brought on when the remedy is given in large doses.

2. Constitutional syphilis.—Slow recovery from either method of treatment. The complexion peculiar to the disease disappears and a rosy hue takes its place in time.

3. Skin diseases of all kinds.—Prompt cure both from homœopathic and allopathic treatment. Prurigo is the most easily cured.

4. Epilepsy.—Three cases treated. The first a child of four years, cured without relapse. The second, a boy of six, who had had two or three attacks a day since infancy; after forty pills had been given him in one day, and seven attacks brought on, he went twelve days without a fall; he now has attacks very seldom and those usually from lack of supply of the remedy. Third case, quotidian epilepsy; treatment began March 20, 1878; in one day he took 36 pills of 5 centigrammes each. * * * Has had no attack since.

5. Convulsions of children.—Cure prompt with Hoang-Nan."

Conclusion.—Lesserteur sums up the question of Hoang-Nan for hydrophobia, as follows:

* * * Hoang-Nan is efficacious in leprosy, ulcerations, serpent bites, syphilitic troubles, etc.. etc., why not therefore in hydrophobia? * * *

* * * Gauthier brought the remedy into notice as one for hydrophobia exclusively. * * *

* * * M. Perrier, missionary at Tonquin for twenty years, declares that he has cured a young girl of 13, of hdrophobia with Hoang-Nan. She afterwards grew up, was married, and is now the mother of children. * * *

* * * If this action then of Hoang-Nan in hydrophobia can be officially proven, it will become a famous remedy. * * *

The medical world will certainly give thanks to Lesserteur for collecting all that is known in regard to this new and powerful remedy, Hoang-Nan. The action of this drug, in the treatment of leprosy, is certified to by well known physicians in the French colonies. In our climate it will probably become famous in the treatment of ulcers, syphilitic, indolent, etc. Its action in hydrophobia is at present chiefly putative.—Clifford Mitchell, M. D., in *American Observer.*

Ava, or Kava-Kava.—The root known under the name of Kava-Kava has lately attracted some attention in France as a remedy for gonorrhœa, and will probably be tried in this country.

Although the plant which yields it (Piper Methysticum, Miq.) has been known since the time of Captain Cook, and although papers have more than once appeared in the Pharmaceutical Journal concerning it, yet a full description of the root and leaf for the purpose of pharmacognosy does not appear to have been given in either of the papers alluded to. A figure of the plant and of portions of the root were supplied with Mr. Morson's paper in 1844.*

The Kava-Kava plant is known by different names in different islands: thus in Viti it is known as "Yaquona," in Tahiti as "Ava-Ava," in Hawaii

* Pharm. Jour. (1) Vol. III, p. 474.

as "Kawa,"* and in the Marquesas Islands as Kava, or Kava-kava.†

In New Zealand a species of pepper (Piper excelsum, Forst.) very similar in appearance to Piper Methysticum, Miq., is known under the name of Kawa-Kawa. This plant, however, does not appear to possess the intoxicating properties generally ascribed to the root of Piper Methysticum, but is only used as a tea and for toothache.‡ Its leaves are generally about half the size of those of Piper Methysticum, and have only five or seven veins radiating from the top of the leaf-stalk.

The Ava, or Kava-Kava plant, is cultivated in Viti, Tahiti, Hawaii, the Society and Tongan islands. Several varieties of the plant are distinguished by the natives. Those which grow on dry soil are said to produce the most active roots.

The Piper methysticum is a shrub about six feet high, with stems varying from one to one and one-half inch in thickness. The leaves are rather large, varying in size from four to eight inches in length, and being nearly as broad as they are long. In shape they are cordate, tapering above somewhat suddenly into a very short acute apex. The leaves are stalked, the petiole being usually from one to one and one-half inch long, and dilated towards its base. To the naked eye the leaves appear smooth, although with the aid of a lens they are seen to have the veins covered with minute hairs, while the rest of the leaf has short hairs thinly scattered over it. The principle veins of the leaf, of which there are usually ten to twelve, radiate from the top of the petiole, the three central veins being very close together for about half-an-inch upwards from the base of the leaf.

The root is large and fibrous, but rather light and spongy in texture. When fresh it is said to weigh usually from two to four pounds, although it sometimes attains as much as twenty pounds in weight, or even more. In drying, however, it loses rather more than half its weight. Externally the root is of a grayish-brown color, and has a very thin bark, which when sliced off shows a complete net-work of woody tissue, some of the interstices of which are filled with soft yellowish-white cellular matter, whilst others are quite empty. Internally the root is of a yellowish-white color. (In a variety of the plant known as "Marea" it is citron-yellow internally, and in another variety known under the name of "Avini-Ute" it is of a pinkish color.) A transverse section shows a number of narrow lines (woody bundles) radiating from near the centre to the circumference, the portions of the soft cellular tissue by which the lines are separated from each other being much wider than the lines themselves. The central portion of the root is soft and cellular, with a few woody bundles anastomosing with each other and proceeding at right angles to the radiating bundles, so that they form a net-work in the centre of the transverse section. The root has a pleasant odour, recalling that of the lilac (Syringa vulgaris, L.), or meadow-sweet (Spiræa Ulmaria, L.). It has a slightly pungent taste, and causes an increase in the flow of saliva, with a slightly astringent sensation in the mouth, and a scarcely perceptible bitterness.

The root and extreme base of the stem are the parts generally used.

The form in which it has been used for medicinal purposes is an infusion made by macerating about one drachm of the scraped root in a quart of water for five minutes. Unlike most other remedies for gonorrhœa, the taste of the infusion is pleasant, while its bitterness improves the appetite and does not produce nausea. The root contains, according to M. Cuzent, an essential oil of a pale yellow color, two per cent. of an acrid resin, and about one per cent. of a neutral crystalline principle called Kavahin or Methysticin, which is obtained in acicular crystals by crystallization from a concentrated tincture. Kavahin differs from piperine and cubebin in being colored red by hydrochloric acid, the red color fading on exposure to air into a bright yellow, and in being colored by strong sulphuric acid a purplish violet color which passes into green. The root contains also nearly half its weight of starch.

The action of Kava root appears to vary with the amount taken. In small doses it is generally stated to act as a stimulant and tonic, but when taken in large doses it produces an intoxication which differs from that caused by alcohol in being of a silent and drowsy nature, accompanied by incoherent dreams, the drinker not being quarrelsome or excited.

The roots grown in damp soil, however, produce a slightly different effect, the drunken person becoming irritated by the least noise. For an interesting account of the way in which the intoxicating beverage is made the reader is referred to former papers in this Journal.*

It appears probable that the medicinal properties of the plant are due neither to Kavahin nor to the resin, since a watery infusion produces the characteristic effects of the drug, and neither Kavahin nor the resin are soluble in water. The therapeutical properties of the different chemical constituents of the root, therefore, still require more accurate investigation.

The root is stated to have been used with success in erysipelatous eruptions,† which is rather remarkable since when taken in excess as an intoxicating beverage it produces a peculiar kind of skin disease, called in Tahiti "arevarea." In old drinkers the vision becomes obscure, and the skin, especially in parts where it is thick, becomes dry, scaly, cracked and ulcerated. In Nukahivi the natives use Kava for phthisis and in bronchitis, a small dose being taken at bedtime. It has also been recommended to be used internally and locally for gout.‡

It was first recommended for gonorrhœa in 1857.§

THE STIGMATA OF MAIZE.—Professor Castan has recently called attention to the stigmata of maise as a remedy which he has found to be of great use in gravel and nephritic colic. In the latter disease there ensued after the administration of the drug a marked decrease in the painful symptoms, and he therefore supposed that the stigmata acted less as a diuretic than as a local anæsthetic.

* Seemann, 'Fl. Vitiensis,' p. 260.
† Pharm. Journ. (2), Vol. IV., p. 85.
‡ Hooker, 'Flora of New Zealand,' Part I, p. 228.

* Pharm. Jour. (1), Vol. III., p. 474; (2), Vol. IV., p. 86.
† Pharm. Jour. (1), IX. p. 218.
‡ Medical Times and Gazette, Dec., 1854, p. 591.
§ Annal. de Therap., 1857, p. 61.

The different results which the use of the stigmata of maize has given at the hands of different observers, appears to be due in large measure to the fact that the strength of the extract varies, according to the nature of the soil, to the climate, to the time, to the mode of picking, and to the manner of drying the stigmata. The formula for the preparation of the syrup is not yet fixed, since the quantity of the active principle varies in different samples of the stigmata. The *Pharmaceutical Union* adopts formulæ which contain in one case six, and in another twelve grams of extract to the kilogram of syrup. She latter receipt is based on the assnmption of a strength of 12 per cent. This quantity appears, however, to be too small, since the best samples of stigmata yield 25 to 30 per cent. of extract, or on an average, 27·5 per cent. The kilogram of syrup will therefore contain 27·5 grams with this strength (27·5 pro mille). The daily dose of the syrup will be two to four spoonfuls, representing about one to two grams of the extract. In all cases the syrup should be used in preference to an infusion of the stigmata of maize. —*The Practitioner, June*, 1880.

Dufau on the Stigmata of Maize in Diseases of the Bladder.—As the stigmata of maize are a very recent and as yet but little known addition to the materia medica, the following resumé of the conclusions reached by Dr. Dufau, both from personal observation and from the reports of others, will undoubtedly prove interesting:

1. The stigmata of maize have a very marked, though not always a favorable, action in all affections of the bladder, whether acute or chronic.

2. In acute traumatic cystitis, and also in gonorrhœal cystitis, they have a very marked diuretic action, but, at the same time, increase the pain; hence they should not be employed in these cases.

3. The best results have been obtained in cases of uric or phosphatic gravel, of chronic cystitis, whether simple or consecutive to gravel, and of mucous or muco-purulent catarrh. All the symptoms of the disease, the vesical pains, the dysuria, the excretion of sand, the ammoniacal odor, etc., rapidly disappear under the influence of the medicine.

4. The retention of urine dependent on these various affections often disappears as improvement progresses, but the use of the sound must sometimes be continued, in order to empty the bladder completely.

5. The stigmata of maize have very often produced a cure after all the usual internal remedies had been tried in vain, or with only partial success. In other cases, the ordinary methods of treatment, which had at first proved more or less entirely useless, became efficacious after the stigmata had been administered for a time, and had, as it were, broken the ground for them. Most frequently the stigmata alone sufficed for the cure, but still in some cases the effect was incomplete, and it was found that the treatment could be varied with benefit. Injections and irrigations of the bladder also proved useful adjuncts to the maize.

6. As the stigmata of maize are a very powerful, though at the same time entirely inoffensive diuretic, they have also been employed with the best results in cases of heart-disease, albuminuria, and other affections requiring diuretics. Cases have been reported in which the urinary secretion was tripled and even quintupled in the first twenty-four hours, and others where the exhibition of the drug was continued for two or three months without the slightest untoward effect.

7. The best preparations of the stigmata are the extract and a syrup made from it. The decoction is unreliable and uncertain. The syrup, the usual dose of which is two or three teaspoonfuls per diem, must be largely diluted, and for this purpose either hot or cold water, or a decoction of the stigmata, may be used. The taste of the mixture is very agreeable. It should be given fasting.—*London Medical Record.*

The Botanical Source of Tonga.—Mr. A. W. Gerrard recently placed in my hands a portion of tonga for examination, with the remark that the medicinal properties were in all probability contained in the fibrous portion.

I observed that the fibrous portion occupied the bottom of the little bags containing the tonga, the centre being filled with bark, amongst which a few morsels of broken leaves were scattered. The mode of arrangement seemed to confirm Mr. Gerrard's supposition that the fibrous portion was the most important ingredient.

The fibrous portion was therefore first examined. Under a lens it showed an endogenous structure, and when a small portion was placed under the microscope a few prismatic raphides and a large number of starch granules, some of them collected into small spheres, were observable. The starch granules somewhat resembled in shape those of the common arum, although they were larger in size, and the source of the drug was therefore sought for in the Araceæ.

On referring to Seemann's 'Flora Vitiensis,' the genus of that family most likely to produce a stem like the fragments found in tonga was considered to be Rhaphidophora. On comparing the structure of a small cylindrical portion given me by Mr. Gerrard with the specimens of the plants of that genus in the Herbarium in the British Museum, it appeared to correspond with the stem of R. Vitiensis, and having been permitted by the courtesy of the keeper of the Botanical Department to examine a fragment of the stem of that plant under the microscope, I found that the starch was of the same shape and size as that of tonga, and like it presented the curious character of agglomeration into little spheres. The prismatic raphides, also, were present as in tonga. In a carefully cut section of the tonga numerous sphæraphides are seen, and here and there a few scattered solitary crystals of a tabular shape. The sphæraphides are present also in the Rhaphidophora, but the section of the latter was too small to ascertain the presence of the tabular crystals. The cellular and vascular structure also corresponds with that of tonga. I have therefore no hesitation in referring the fibrous portion of tonga to a species of Rhaphidophora. In all probability the species yielding it is R. Vitiensis, which Engler, in his recent monograph,* makes a variety of R. pertusa, Schott.

*Engler, 'Araceæ,' vol. ii., p. 244.

Dr. Seeman makes no mention in his magnificent work of any medicinal use for this plant, but Dr. Masters, in the 'Treasury of Botany,' mentions that R. pertusa (Scindapsus pertusus, Schott) is used as a remedy for rheumatism and skin diseases. So many of the aroids contain an acrid, often volatile principle, that apparently but little attention has been paid to searching for other active principles, and Mr. Gerrard has done good service in showing that one member of this family, although retaining no acridity of taste, possesses an active alkaloid.

The bark which is mixed with the stem in tonga appears to resemble in its sweet and slightly astringent taste that of monesia bark and the "sweet bark" of Queensland; both of these barks are derived from trees belonging to the Sapotaceæ, and it may be presumed the tonga bark is derived from some member of the same family. The fragments of leaves are of exogenous structure, and are probably added as a blind, since they differ from those of the two families to which the other drugs belong, these leaves being present in minute quantity only and often absent altogether from the packets of the drug.—*E. M. Holmes, F.L.S., in Phar. Jour. and Trans.*

Mangifera Indica.—Some months ago my attention was directed to a specimen of the fluid extract of Mangifera Indica; and I experimented with it in the treatment of various diseases. I found it to be of commendable service in chronic diarrhœa, but not better than a solution or infusion of extract of logwood. It has too much color to inject for gonorrhœa, and leucorrhœa; it would stain the patient's linen.

I found the medicine of marked service in the treatment of profuse and exhausting menstrual fluxes. In the uterine hemorrhages following miscarriages the agent exerts a powerfully restraining influence upon the hemorrhagic waste. In those sanguineous losses which often occur about the change of life, and while uterine tumors are developing, the mangifera is the most potent and reliably acting medicine ever introduced to the notice of the medical profession. I prescribe the fluid extract in four or five drop doses every three or four hours In a short time the influence of the medicine is observed; and in a few days the desired effect is reached. No remedial agent of such great value has been introduced to the profession, for the purposes named. It is as near a specific for profuse menstruation and uterine hemorrhage as may be desired. I might report ten or twelve cases in which the medicine exerted just such an action as was wished, but it is not my intention to occupy space in commending the agent. I simply aim to call the attention of my readers to a modern remedial agent that is worth something—or is deserving of praise.—*Eclectic Med. Jour.*

Tonga.—Dr. Lush communicates to the Buffalo Med. and Surg. Journal an account of five cases treated with this remedy, (see Druggist of June, p. 134). In one, the alcoholic extract was administered (dose not stated) every six hours. The fourth dose effected a cure. The second case was treated with the infusion in doses of a wine-glassful, for four days without amelioration. The third, with favorable symptoms from the use of the infusion, was, after two days, given teaspoonful doses of the alcoholic (fluid?) extract. Five doses cured this case. The fourth was relieved by the infusion, and the fifth, and obstinate one, required nine teaspoonful doses of the extract to effect a cure.—*The Druggist.*

Hedysorum Gangeticum in Dysentery.—Amrite Zall Deb is convinced of the efficacy of the root of this leguminous Indian plant. It ought to be used in the fresh state, reduced to a pulp with a little water, and given three to four times a day; or every four hours in doses of 45 grains. This drug is not nauseous and does not produce a single disagreeable effect. The author says that its medicinal value recalls that of ixora coccinea.—*L'Union Médicale du Canada.*

Quebracho.—As unlikely as it seemed at first that the new drug quebracho (Aspidosperma quebracho) could have any influence upon cases of dyspnœa, it seems now to be well established as true. "The dyspnœa of emphysema seems, from all accounts, to be most relieved by this drug; in that of phthisis the effect is uncertain, as well as in œdematous conditions of the lungs associated with renal disease, but some cases of cardiac dyspnœa, and even spasmodic asthma, have been benefited by it."—*N. C. Med. Jour.*

Condurango Bark Again.—I. von. Dietrich reports the case of a woman, 49 years of age, who had suffered for ten years from pain in the stomach, for three years had noticed a tumor in the umbilical region, and who had been confined to bed for six months with all the symptoms of well-marked cancerous cachexia. After using the condurango for four weeks, the tumor was reduced to a quarter of its original volume, the patient agan became able to work, and a month later only perceived slight hardening, and was otherwise quite well.—*Practitioner;* from *Cbl. f. Chirurgie*, 1879, No. 1.

Kola Nuts.—Attention has been recently directed by medical journals to Kola nuts, which, by the natives of Africa, are asserted to promote digestion and ward off inordinate danger, to relieve thirst, to sustain physical strength and to give endurance under prolonged exertions.—*American Journal of Pharmacy.*

A New Remedy for Epilepsy.—Dr. Shields, in the Southern Clinic, reports two severe epilepsies cured by white peony root. He uses the remedy as follows: Root of the white peony, ℥ x; boiling watercong. j; boil to two quarts and filter. Of this decoction give about one ounce three times a day.—*Louisville Med. News.*

Oxide of Zinc in the Treatment of Diarrhœa.—M. Cousin recommends, in le Marseilles Médical, the use of the following formula:—

℞ Zinc. oxidi, ʒj
Sodæ bicarb., ʒss
Ft. chart. No. iv.

M. Sig. One every three hours.